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Bird's-eye view of practical and popular



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ME

The first of these is the fact that the
 human mind is not a blank slate at
 birth, but is filled with a variety of
 impressions and ideas. These are
 the result of the child's previous
 experiences and the influence of the
 environment. The child's mind is
 constantly growing and developing,
 and the child's ideas are constantly
 changing. The child's mind is
 constantly growing and developing,
 and the child's ideas are constantly
 changing. The child's mind is
 constantly growing and developing,
 and the child's ideas are constantly
 changing.

CHAPTER II.

SPECIAL ANALYZATION.

is the primitive power of the human system, and eternal entity and fact, and to it every other fact, or multiform, must ultimately come. It molds, and informs the material organization from the rushings of life to the dull monotonies of garrulous idly. Yet to manifest, while on earth, its full grandeur and beauty, it must have a proper medium. Good social conditions, with rational culture, will always be a good cerebral medium. No mind can possibly attain any great degree of power, purity, and symmetry if placed within an imperfectly developed brain. The mind seems to have established fixed organic laws, and so long as mind is conjoined to matter, it will be effected, to a certain extent, by them. By evidence, both positive and negative, I infer that the mind is a single operative principle, giving rise to a series of separate faculties by contact with a multiplex system of brain organs. A faculty may be defined as a simple effect produced by the combined action of mind and brain, while a cerebral organ is a material instrument through which, an

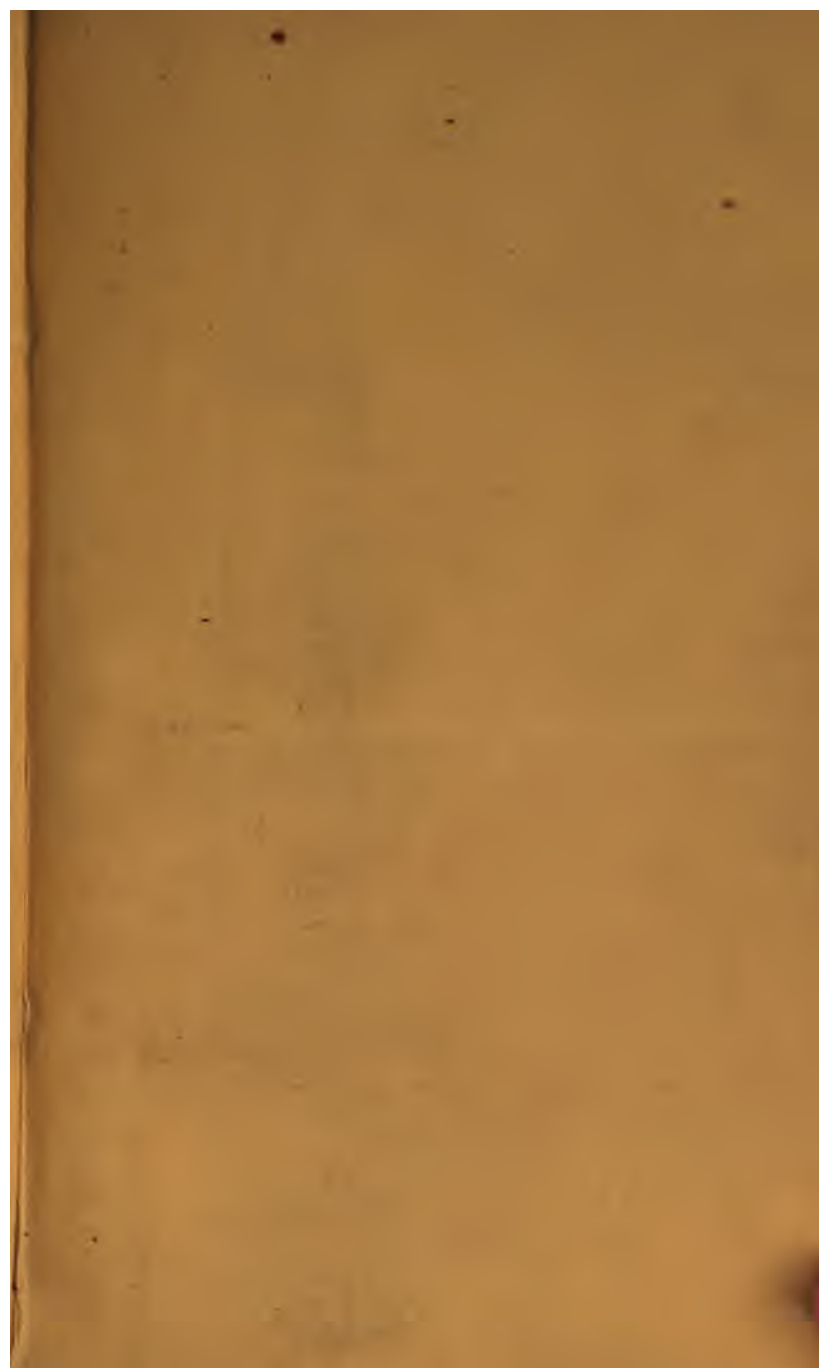
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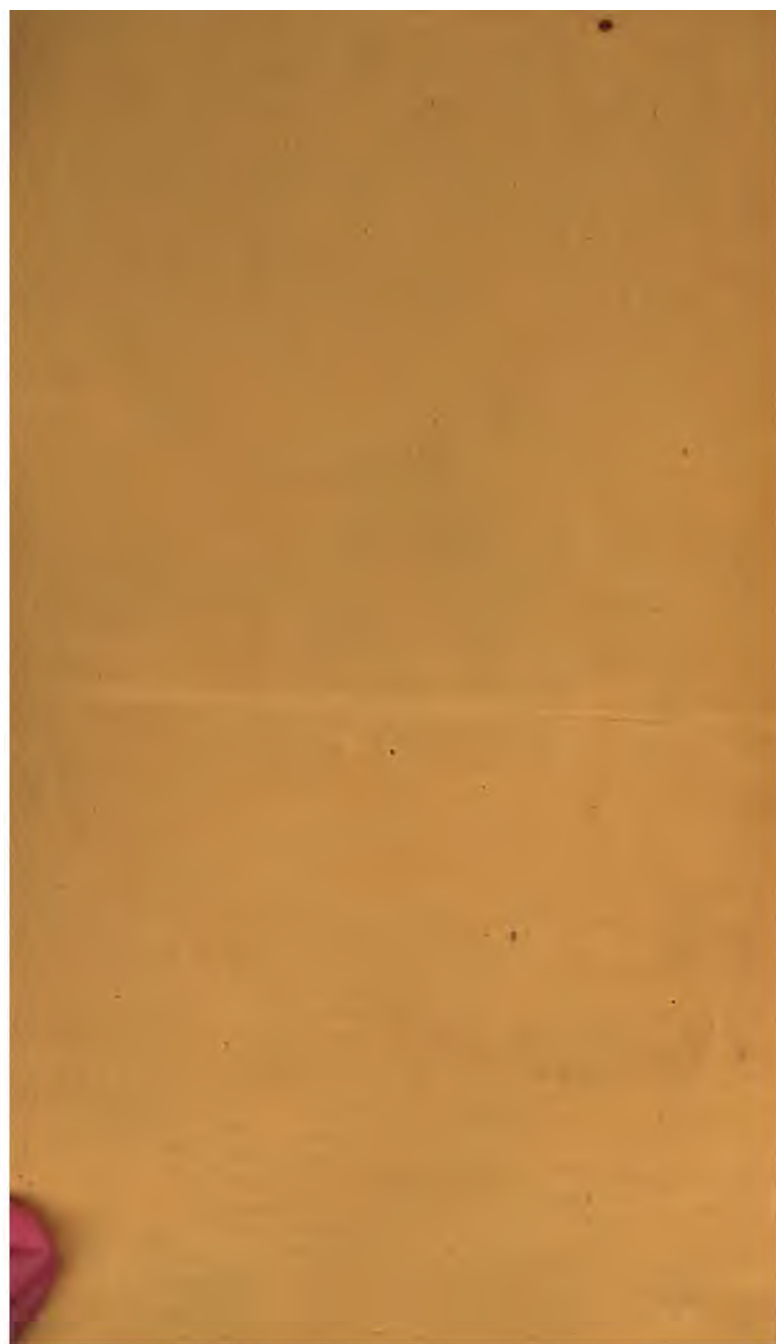
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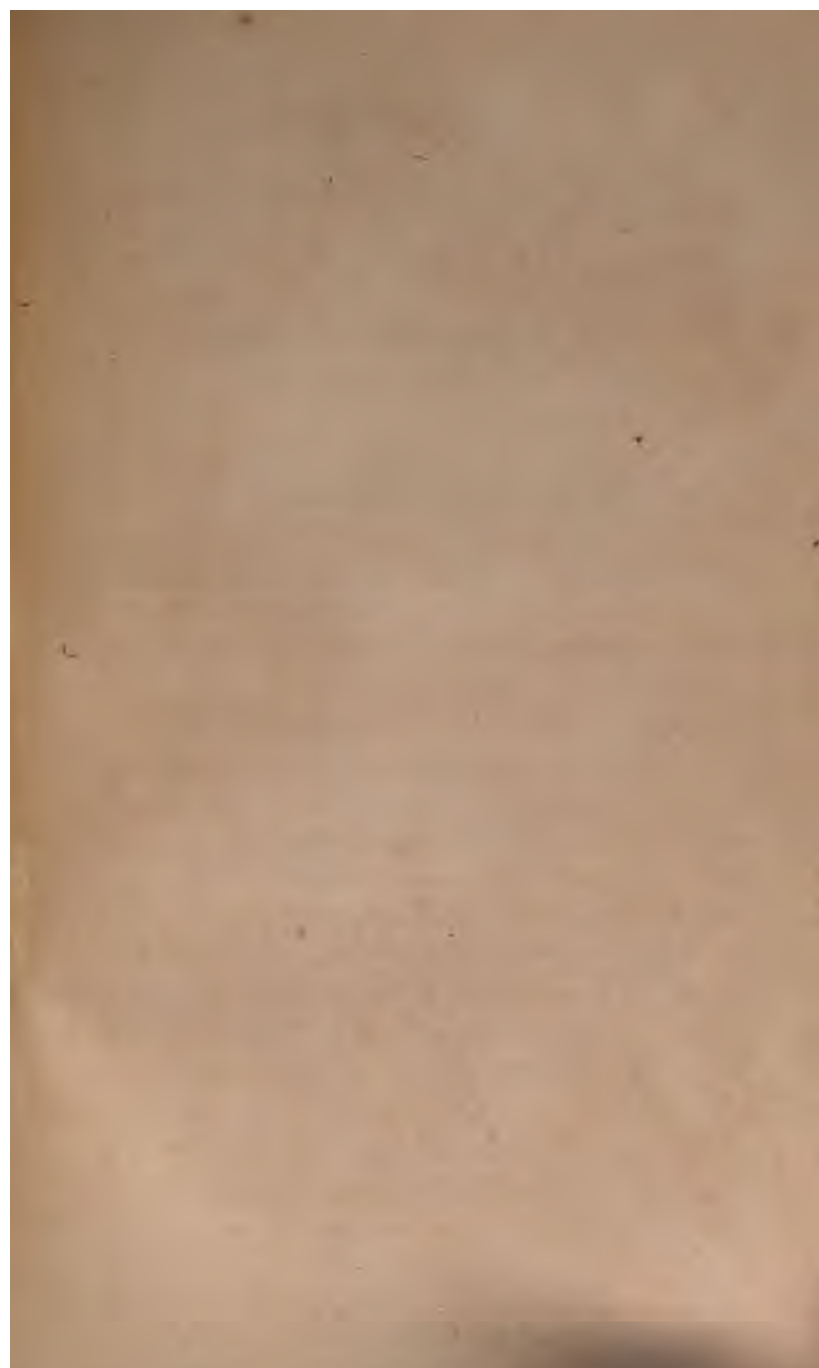


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BIRD'S-EYE VIEW
OF
PRACTICAL AND POPULAR
ANTHROPOLOGICAL SCIENCE.

BY W. A. PAYNE,
PROFESSIONAL PHYSIOLOGIST AND PHRENOLOGIST,
*Author of a "Special Work on the Reproductive System," and various articles on
Matters of Art and Literature.*

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INTRODUCTORY.

As many of my friends in different portions of America and the British Provinces have often expressed a desire that I should write something on the sciences to which I have been, for a number of years, calling the attention of the people, I have concluded to do so, knowing, at the same time, that my talents in the writing line are quite limited, being altogether an off-hand or inspirational speaker—depending on the magnetic influence of my auditory instead of that deep individuality and continuity which ever distinguishes the polished and profound writer. On several occasions I have delivered twenty lectures on general science in the same city, fully surrounded by a large and sympathetic assembly, that acted upon my mentality like a charm, producing a result ten-fold more beautiful, systematic and powerful, possibly, than any writing effort I could make amid the arduous everyday practice of my profession. My engagements are such that I can only give a brief part of my time to the preparation of this manuscript; yet I hope that points and suggestions will be made of practical importance and

utility to the young and middle-aged of both sexes. Nearly all of my manuscript of a large work, entitled "Practical Physiognomy, Phrenology, and Physiology," was lost, and I unfortunately find myself so situated that it would be impossible to reproduce the work at present. The gallery of portraits, sketches, and physiognomical and phrenological analyzations of character which I proposed publishing last winter in Chicago, will not be issued until next spring, owing to the failure, thus far, of obtaining certain photographs of distinguished European poets, philosophers, inventors, artists, etc. The growing interest evinced by the principals of State universities, law schools, commercial colleges, library associations, etc., for information on the laws of mind and organization, hygiene and specific education, as first hinted at by Gall and Spurtzheim, and taught by Combe, Vimont, Fowler, and others, speak more definitely than words of mine of the ultimate popularity of such studies. I have invitations to lecture in one or more institutions of learning in at least fifteen States, embracing every degree of American longitude, thus proving that taste for this kind of knowledge is not confined to any particular locality, as many supposed in times past. Not ten minutes since, I examined the mental characteristics of an eminent physician and superintendent of an insane asylum, and after he had acknowledged the accuracy of the description, he remarked, that "until the principles of cerebral pathology and phrenology were fully recognized and followed stead-

fastly, we need not expect to prevent people from becoming maniacs, monomaniacs, etc., or escape from seeing the world filled with partially-developed men." Allow me to add that until physiology is made a study by our young girls, thousands of graves will be peopled long before their time, and the women of America will become a race of invalids, as the major portion of French women are to-day. An indisposition to study physiology, owing to sentiments of overdrawn refinement, is a marked feature of American girls. They claim that the plates and designs are such as no lady should look upon; and seem to think it quite the thing to exhibit perfect ignorance in relation to their anatomic and physiologic structure. Some men are verdant enough to suppose that innocence is the never-failing accompaniment of female stupidity and mock-modesty, and that a well-posted woman is necessarily dangerous, and should be shunned. Just the reverse is true. Watch the fashionable, physiologically ignorant, dainty prudes! Sensible women, who study the mysteries of their own nature, can take care of themselves.

Respectfully,

W. A. PAYNE.

PARLOR No. 8, BURNET HOUSE, }
CINCINNATI, June 19, 1868. }

OUTLINES OF PRACTICAL AND POPULAR SCIENCE.

CHAPTER I.

GENERAL STATEMENTS.

IN order to understand thoroughly the real nature of man, in all his complex relations, it is indispensably necessary for the student to be conversant with the leading principles and facts of six specific branches of science, namely, anatomy, physiology, phrenology, ethnology, physiognomy, and organic and inorganic chemistry. By the first, we learn the location of bones, tendons, muscles, cartilages, heart, lungs, glands, tubes, follicles, cerebrum, cerebellum, medulla oblongata, nerves of sensation, motion, conveyance, etc., and their mode of attachment and connection. By the second, the peculiar functions of each is plainly revealed, and the difference between normal and abnormal action exhibited. In short, physiology embraces nearly all of man's organic and functional relations and conditions, and is rightfully regarded by many emi-

nent thinkers to be the most important and fascinating science within the reach of human reason. By the third, you discover the mutual relation sustained between the mind and brain, and the especial duties assigned to each portion of the frontal, occipital, parietal, temporal, and coronal mass, together with the laws governing thought, volition, and mentality. By the fourth, you find the effects of climate upon human character, and learn the natural history of the human race—differences existing between tribes, nations, and individuals, manners, customs, etc., of various nations—all of which is deeply calculated to expand your mind, and give you correct views of men in general. By the fifth, you learn the meaning of the numerous inscriptions on the face, as all of the passions, faculties, powers, etc., are legibly written there by the hand of God. You can, with practice and culture, read the hypocritical from the honest, the bright from the stupid, the gay from the serious, the philosopher from the poet, inventor from the merchant, etc., every time. By the sixth, you discover the wondrous chemical laws of bodily life, the mysteries of the ultimate elements, such as potassium, aluminum, magnesium, calcium, iron, copper, oxygen, carbon, hydrogen, nitrogen, phosphorus, sulphur, chlorine, silicon, etc. This last is a grand and illimitable study, and, like its twin sister geology, brings to its altar men of marked and profound understanding.

Now, reader, it would be perfect folly for the author to attempt to give even a full "bird's-eye view" of these

beautifully-connected sciences. All he can do, under the circumstances, is to strike at the bold outlines. Do not expect any orderly or systematic arrangement of matter, as this is written only for popular reading. If I had the patience to write, and the public the desire to read, I would like to write up these sciences as they should be written—for popular fireside entertainments. Thousands of the common ills of life might be obviated if they were but partially known, and many of both sexes escape premature graves. When all the above studies are linked together, they form the superstructure known as anthropology, or "science of man;" and this, gentle reader, is what I claim to be, namely, anthropologist, or student of human nature, as revealed by physical and mental science, and a student of man in all his varied phases of activity, passivity, perversion, and purity.

Eight years of constant travel, practice, and observation throughout America and the Provinces, has vividly impressed the fact upon my mind that moral and social reforms can never be successful until the leaders of the people introduce among them practical lecturers and books on mastication, digestion, respiration, circulation, ventilation—in short, on mind and organization, so that they may know how to live according to the law of God.

Ethnology can be divided into three departments; in fact, this is the best way of presenting the subject, namely, general, special, and comparative. The first treats in general of the five grand divisions; the second, of their sub-

divisions made up of tribes, clans, races; third, of the difference existing between one nation and another, and the cause, together with the difference that exists between the branches of the same paternal stem. Anatomy is also general, special, and comparative. The first, relating to the mere outline and configuration of all animate creatures; the second, to the description and naming of localities and parts; and the third, to the difference that exists between animals, birds, insects, etc., in structure, size, mobility, density, brittleness, or toughness of bone, etc.; whether of the same order, specie, genera, or not. Physiology, general, special, and comparative—the first giving the functions executed by the various organs of animals; the second, relating exclusively to the duties executed by the bodily organs of human beings; third, the difference in the amount and quality of respiration, deglutition, digestion, absorption, excretion, etc. With these three sciences as a basis, mental philosophy is being erected, and neither the advance of years nor the skepticism of the age will ever effectually resist its onward and upward march.

CHAPTER II.

SPECIAL ANALYZATION.

MIND is the primitive power of the human system, and is an eternal entity and fact, and to it every other fact, simple or multiform, must ultimately come. It molds, forms, and informs the material organization from the first flushings of life to the dull monotonies of garrulous imbecility. Yet to manifest, while on earth, its full power and beauty, it must have a proper medium. Good hereditary conditions, with rational culture, will always produce a good cerebral medium. No mind can possibly act with any great degree of power, purity, and symmetry if placed within an imperfectly developed brain. God seems to have established fixed organic laws, and so long as mind is conjoined to matter, it will be effected, to a great extent, by them. By evidence, both positive and analogical, I infer that the mind is a single operative principle, giving rise to a series of separate faculties by its contact with a multiplex system of brain organs. A mental faculty may be defined as a simple effect produced by the combined action of mind and brain, while a cerebral organ is a material instrument through which, and

by means of which, the mind exhibits a particular or special power.

Brain, on the other hand, is the center of man's spiritual, animal, mental existence. It is the grand pivotal center, through which, in the language of *Vimont*, every effort of the will, every leap of the understanding, and every glow of the affections, and every flash of the imagination is evinced. It is in the brain a person thinks, prays, loves, hates, feels, and curses; in short, it is the temple of all earthly life, and every function of mind is influenced by it. Through its convolutions must float every thing relative to life, death and destiny, and just in proportion as to the solidity, quality, and quantity of the brain, other conditions being equal, just in proportion will there be symmetry, strength, and scope of mind. The brain and physiological marks indicate, to the practical phrenologist, a man's character in full, because the mind underlies and shapes the brain, the brain underlies and shapes the skull, and, in conjunction with nerves and muscles, gives the face expression. Some sensible persons, as well as some natural-born fools, imagine that so soft a substance as brain could not make an impression on so hard a substance as bone. All analogy teaches, however, that such is the case. Take, for instance, the covering of a tree, the bark of a hickory nut, the back of a turtle, the external coat of a craw-fish—in short, take a view of the entire animal and vegetable kingdom, and you will find the external always giving way to the internal.

"The shape and size of the brain is measured by the shape and form of the skull, and undergoes constant change from birth to death." Without entering upon the anatomy of the brain, permit me to remark that it is formed by all those parts of the nervous mass contained within the cranium. To outline them, they are called the cerebrum, cerebellum, and medulla oblongata. The first is situated in the frontal and coronal portion of the head; the second, in the occipital region; the third, at the summit of the spinal cord, from which "spring the fibers which constitute, in their full expansion, the hemispheres of the cerebrum, termed, in the aggregate, the corpus-collosum." Little transverse fibers branch off and connect the hemispheres of the cerebellum, and are called, by anatomists, pons-varoli. The cerebellum, or little brain, is near seven times less than the frontal or cerebral region, and is separated from it by the tentorium, a thin, tough membrane fastened across the posterior portion of the head. The brain substance is gelatinous, and of but two colors, white and gray. The latter lies at the surface, the other in the interior. The ancients supposed that the gray substance contained within it the elements of thought, and thus mind was thought to be a chemical operative something. I don't know as the savans of the nineteenth century are much in advance of the Egyptians, so far as facts relative to the essence of mind are concerned.

The brain is beautifully and thoroughly protected by

finely-wrought coverings, termed arachnoid piamater and duramater. These are protected in their turn by the bony outer covering, called the skull, which is made by the conjunction of eight bones, and rests on the spinal column, which is composed of seven cervical, twelve dorsal, and five lumbar vertebra. The bones of the face are fourteen in number, each differing widely from the others in structure. In the language of Dr. Buchanan, a deeply-fascinating and profound writer, I will not insult your understanding by arguing that the brain is the organ of the mind, the dome of thought, the palace of the soul, for that proposition is freely admitted by both the liberal and scientific. All physiologists know that it is not the eye that sees, the nose that smells, the ear that hears, the tongue that tastes, the hand that feels, the heart that loves. Yes, these are simply instruments used by the brain in its communication with external nature.

What we wish to impress upon your minds, in this article, is, that the human, as well as animal, brain is a plurality of distinct organs, and that the science of life and mentality commences right here. Although this doctrine of separate and numerous organs has been shunned by some and disbelieved by many, it claims the indorsement of the leading metaphysical minds of the seventeenth, eighteenth, and nineteenth centuries. But as it is a boyish mode of proof to cite the belief or unbelief of great minds in support of any theory, I pass immediately to the facts.

In the days of "Lord Jefferies," and other contemporary "ante-plurality" writers, it was boldly stated by the opponents of phrenology, that the mind was an ethereal essence, totally disconnected with matter, and was in no way dependent on brain for manifestation. The doctrine was ridiculed so greatly by the critical writers of "eminent reviews," both provincial and metropolitan, that the people soon learned to associate great imperfection of mind to the man who had the courage to preach plurality. Now, however, there is not a scholar in Europe but what recognizes the truth of it. As there are a few persons yet who believe in "Scottish Bards and English Reviewers" (la Byron), and, consequently, that the mind is distinct from, and not in any way connected with, the brain, I throw forward these points. First, then, I make no attempt to analyze the essence of mind; that is beyond the reach of the finite; I only examine the effects of mind while it is acting through organization. One person's mind may be as good as another's previous to its coming in contact with brain, but of this I know nothing, and it is foolish to conjecture. Some say that the mind of an infant, first launched amid the thorns and gloom of an earthly and blended existence, is as active and powerful as that of an adult, yet owing to the non-development of the brain, the child can not exhibit it. Others go one step further in the same track, and declare that the "mind proper" of an idiot, or drunkard, or maniac, is as free from weakness or disease as the mind

of a "Bacon, Plato, Hunter, Galen, or Selden," but, from the fact that the nervous systems of the first are either constitutionally or temporarily deranged and illy constructed, their minds have no outlet—the windows of their souls are shut. This is all speculation, however, for did not "gifted Pliny" search amid the moldering archives of the past unsuccessfully? The problem was never solved by him. Did not Orpheus, Lucretius, Seneca, Virgil, and Aristotle strike and ponder this subject in vain? Did not Spinoso, Darwin, Hobbs, Bruno, Gassendi, Grandville, and other savans, from the fourteenth to the eighteenth centuries, touch the "gilded wire" of wonder, imagination, and reason in vain? Did not the knife and scalpel of the anatomic dissector, guided by the hand of experience, search through the different volutes of the brain, year after year, in order to be able to solve the question—alas! alas! as remarked by the lamented George Combe, "they found no slumbering sentiments in the fibers, or half-formed ideas leaping from their folds," and have only demonstrated a partially admitted fact, that man will never fathom nature's deep store-house in the aggregate, or unravel those mysteries of mind which the Supreme Architect of space, time, and eternity intended should remain hidden.

We can, however, by treating of the body and mind as compound, and of thought and volition, passion and imagination, as the result of the two acting in unison, disclose important points to the young. You who have

studied history will readily perceive how utterly impossible it is for men to discover the primitive constituents of mind, or talk satisfactorily of what the mind was before it became blended with matter. History points to hundreds who have failed, from the days of Lycurgus down. Therefore I will say but little more about it. The atheists say the mind is a "peculiar force," growing out of bodily changes; while the idealists say that it is a refined entity, so ethereal that it is devoid of the power of acting on or through matter. Both positions are evidently wrong. The experience of every hour contradicts the first assertion, while a slight quantity of a common drug obliterates the other. A little morphine will steep the entire congeries of the mind in sleep and dark forgetfulness, thus proving that mind is inseparably interwoven with brain. A slight physical shock, even, will often turn the current of thought; while sickness of a nervous character will quickly prostrate the most gigantic intellect. Albermarle observes, in his "Philosophic Meditations," that the lowering clouds depress the mind, that the roaring thunder will enervate it, and that a blow on the head will often change the most gifted persons into raving maniacs, causing their lips, previously innocent and pure, to utter the most revolting blasphemy. It seems, then, from this and other available testimony, that mind can not be considered a separate entity, "in no ways connected with matter." In man's present state, the coöperation of both mind and

brain are essential to every intellectual process. Professor Dod's, psychological lecturer, says "thought, reason, and understanding are not mind," but the effects of mind. Mind is something higher than these. Mind is "that something" which has innate, living motion, and the result of that motion is thought, reason, etc., electricity being the medium through which it acts on the brain.

I believe that when the body falls, the five senses perish with it, together with all those propensities common to animals. Yet, only for a short duration, they undergo new forms; pass through various chemical revolutions, and assume new states. No "vain poetry is this," says Michelet, "but literal truth." Every physiologist knows that the body changes within seven years; undergoes a complete and radical change of all old particles. And even this constant death of the tissual structure, this perpetual death of the exquisite organs of sense, is, after all, but a return to vegetable life. We find very little solid tissue in man's physical organization. This transforming envelope, named body, possesses chiefly fluids instead of solids, which rapidly evaporate at death, and then is taken up by the calm herbs of the field and leaves of the forest, and exhaled by them in return a "soul-inspiring, life-giving oxygen." The poisonous exudations of the dead, rank with carbonic acid gas, are nightly and daily absorbed by all the flowery kingdom. The little violet, johnny-jump-up, and the blood-red rose flash their beauty under the rays of the sun, and exhale their fra-

grance on the passers-by. Oh, man, think of it! You give up your physical life to the world of plants and vegetation, and they by the mandate of the "Omnific Ruler," they give theirs in return. Not so, however, with the higher powers of the human mind, which are capable, when properly directed, of running "coeval and commensurate with space itself." Science and religion both intimate that they are subject to endless extension, and will, if properly controlled on earth, eventually ride high among the uninterrupted joys of a better existence. "These higher powers we define as being in the aggregate, the 'Bible man,' he of corruptibility, who shall put on incorruptibility." They constitute, in their full expansion, his immortality, and "lead him to infer, no less than revelation commands him to believe, that he is the favored creature of a never-ending progression." Here allow me to observe that the whole range of science is undergoing gradual, though constant development. Phrenology, geology, botany, chemistry, astronomy, anatomy, physiology, ethnology, zoölogy, physiognomy, etc., are but fragments of a grand, stupendous unity. Every bold and original thought, whether emanating from Fin, Goth, Alan, or Hun, or from the living oracles around us, should find a willing reception in our minds. Listen to the facts of the present, learn the hints of the past. To man's mind, if judiciously trained, all things are subservient, and every truth will center to it, just as the radii of a circle tends to its center. Illustrious men of

every age have taken a few steps in the right path, while turning the wheels of progress. The founders of phrenology certainly did in theirs. So with their followers. Yet it will require the united efforts of centuries and of nations to sound the extended depths of man's complex nature. Boy, with the Grecian or Roman face, read, observe, meditate; and there will surely come a time when some meager hint, fact, or pale suggestion will glide athwart your spirit-vision, and lead you through the variegated realms of art, literature and science. A hint from the past formed the basis of the most luminous and astonishing discoveries of Descartes, and to these little hints, suggestions, and partially-developed facts, the "immortals," Gall, Newton, Humboldt, Combe, Swedenborg, Kant, and Schiller, owe their undying fame.

Science will yet teach her children more than mundane dreamers can ever predicate, and cause them to sing the song of Pope, and honestly believe it.

"Look 'round the world; behold the chain of love,
Combining all below and all above.
See plastic nature working to this end,
Atoms to atoms; clods to crystals tend.
See dying nature life sustain,
See life dissolving, vegetate again;
All served, all serving, nothing stand alone;
The chain holds on, and where it ends, unknown."

Fifty years hence the sentiments of charity, love, faith, hope, etc., will be much better understood than now. But to return to my argument. Intellect is, doubtless, reared

upon man's animal nature, as "a temple is reared upon its base;" and, to use a figure of speech, darts its sparks through his cerebral centers, like a flash of linked-lightening through a porous box. For every motion of it, for every ray which betokens genius; for every glance which penetrates mystery; for every passage of the mind to the world without from the world within, brain agitation is required, and animal nervo-vital force necessary. Nor need this view lead to materialism, for inasmuch as God has provided the human mind with earthly apparatus here, it follows as a logical sequence, that He is capable and willing to supply it with a celestial apparatus there. The stupendous system of worlds upon worlds, which astronomy reveals, plainly indicate, that whatever the universal principle of mind *wills*, that He can surely do. It is evident that He has willed that matter should be subjective to mind, and that brain should be the instrument of mental communication while in the body; and that special parts of it are used for special duty. Now for the proof. First, by analogy; second, by observation; third, by experience.

Did you ever examine the base of the brain and spinal marrow? If so, you have noticed the large number of nerves which branch off from it and spread out over the body. Now, so far as understood by anatomists, each one of these nerves perform a different function. For example, when we converse, there is one nerve whose duty it is to move the tongue, another which communicates sensation,

while a third conveys a knowledge of what is going on in the physical system to the brain. If you sever or benumb the nerve of "motion," the lingual duties will, in your subject, forever cease. Sever the nerve of sensation, and all feeling will cease. Sever the nerve of conveyance, and all sympathy between body and mind will cease. We find, further, that the olfactory nerve, over the living membrane of the nose, takes up impression of odors, and transmits them, while the optical nerve, running along the internal chamber of the eye, takes up various impressions of pictures and objects, and sends them over to the seat of thought. If you sever the olfactory nerve, the sense of smell will cease; sever the optical nerve, and the power of vision will cease. Then, again, the auditory nerve extends through the apparatus of hearing, and transmits the various impressions of sound; while the facial nerves branch off from the brain through an opening situated near the meatus auditorus externus, and ramify over the regions of the face, thus forming a channel by which the mind is enabled to give the varied shades of physiognomical expression. Sever the auditory nerve, and all hearing would cease. Sever the facial nerves, and the countenance would be a blank. . . .

Lavator taught that each of the mental organs connected with a facial nerve in such a way as to produce poles. These nerves connect with each other by means of filaments, and act and react on each other, as one can very readily realize who may be laboring under the tooth-

ache. Every physical and mental organ has its magnetic center stationed in a given portion of the *face*, and when they display disease or healthy action, the countenance shows it. The sympathy and correlation existing between the mind and face gives birth to the science of physiognomy. By this we read character in two ways; first, by the action of facial nerves and muscles; second, by the comparative prominence of facial development. Presently we will look to the leading facts of physiognomy and apply them. Aside from the analogical proof, deduced from the structure and functions of the nervous system, we have abundant reasons for concluding that the brain is not only the organ of the mind, but also a plurality of organs.

In the animal economy we notice that different organs are required for the exhibition of different functions. The heart propels blood, the liver secretes bile, the lacteals absorb chyle, the lymphatics remove the waste matter, the larynx performs the vocal function. In short, each muscle, gland, tube, follicle, membrane, and nerve executes an office peculiar to itself. The work of the veins could never be executed by the arteries, nor could the duties of the flexor muscles be discharged by the extensors, for localization and individualization of function is a law of all organization. Separateness of duty is ever accompanied with separateness of form, and it would be exceedingly strange if the brain was an exception to this universal law. A celebrated metaphysician says: "Let

it be granted that the cerebral hemispheres are the seat of the higher psychical activities; there are distinctions of kind, which, though not definite, are yet practically recognizable, and it can not be denied, without going in direct opposition to established philosophic principles, that these more or less distinct kinds of mental activity must be carried on in more or less distinct parts of the hemispheres of the brain. To question this is not only to ignore the truths of physiology as a whole, but especially those of the nervous system. Either there is some arrangement, some organization in the cerebrum, or there is none. If there is none, the brain is a chaotic mass of fibers, incapable of performing any orderly labor. If there is organization and arrangement, it must consist in that same division of labor in which all organization consists, and there is no division of labor, physiological or otherwise, which does not involve the concentration of special kinds of activity in special places." In the name of common sense, if the body and every other machine of which we have any account, gives rise to a number of separate and distinct organs, why not the brain? Can it be that the brain performs less important work than a physical machine or human body? Certainly not, for all attainable evidence, whether primitive or analogical, proclaims that the body, as well as extraneous material, is subservient to the brain; while the knife of the dissector plainly reveals that it is decidedly more complicated in structure than the body, and complexity of structure

always indicates variety of duty, whether in an animate or inanimate being. Yet some of the old school anatomists don't believe it, because dissection don't reveal it. The fact is dissection, after the old method, was brimful of error. The human brain was never dissected properly until the days of "Gall and Vimont." Up to that period anatomists sliced it, like a butcher would a piece of common beef. Of course they could make no discoveries. After that period the brain was delicately, scientifically, and artistically unraveled: convolution after convolution, by the skillful hands of Spurtzheim and Gall, and distinct centers found for every distinct faculty. Dissection, without the aid of experiment and observation, however, could never have reached the case, as it is quite difficult to make dissection alone profitable.

Very little is learned by experimenting and groping among the cerebral organs of dead men, and the immortal Gall realized it, and confined himself chiefly to observation. A brilliant medical writer says: "No man can, by dissection alone, tell the function executed by the optical nerve; yet, by observation, the facts are gained." No man, I add, by a dissection of the retina, could infer as to its office. No man, by rushing a steel-blade through the layers of the brain, could discover that thought was elaborated by the action of the whole brain, or by a part of it. Yet observation has given us the facts in both instances, which are as demonstrable as that the propensities of man are at the base of the brain, and reason at

home in the frontal lobe. Van-Helmont claimed that the soul was located on the "pinial gland." I don't understand that, as I conceive the mind to be the soul, and know it to roam at will around the volutes of the brain, without a central habitation. I quote from memory what some writer says about the brain: "The brain of man is a delicate, mystic, and wondrous machine, and it is very difficult for the most gifted, outside of the regular students of human nature, to say where deficiency ends or excellency begins, and where eccentricity ends and insanity begins. In the best of brains we often discover some delicate and exquisite string of the mazy material instrument broken, shattered, or congested, and then we behold the strange response of a definite monomania. A man may mingle with the world, perform properly the duties of the hour, pursue connectedly the routine of everyday affairs, yet have a streak of insanity permeating a convolution, or flashing or dashing along a fiber of his brain, and he may pass on to the grave without his case attracting comment or notice." The above is the substance of the article, although it may not be in the exact words of the author.

Take history, scientific or descriptive, and through it examine the inhabitants of Europe, America, Asia, and Africa, and without a particle of proof from the animal frame-work you will be convinced of the existence of the "law of plurality of brain." Cast your eye in whatever direction you may, and you will behold a diversity and

variety which could not exist if the brain were not a number of distinct organs. On mountain and in valley, on sea and on land, everything points to this fact. Indeed it must be complex, with numerous specific centers in order to give origin to the countless manners, customs, laws, and religions of humanity. Look at the marked difference existing in the social habits of different nations. That which is altogether socially agreeable, for instance, to a Frenchman, is totally repugnant to an Englishman. Look at the war-loving Roman, and art-loving Greek. Compare the diet of nations, the gesture, the cookery, the articulation of nations, then tell me, how could this wide diversity exist were it not for the law of plurality? Hundreds of languages, hundreds of religions, hundreds of your marital laws and moral forms, hundreds of ceremonies and special mental attributes, and yet some of you believe the brain to be a single organ, and that "all brain is alike, only modified to an extent by culture." Granted that culture develops brain, it does not recreate or change altogether the primary characteristics of a people. You can not keep an Anglo-Saxon in slavery, nor can you, by every system of education, make the four other divisions of the human race equal in mental power and versatility to the Caucasian. And why? you ask. Simply because brain is a plurality of organs, and is the instrument of thought, and is found in the latter race to be more perfect, full, and active, than in the others.

We notice in each nation a striking coincidence

between cerebral development and character. Compare the low flat brain of the New Hollander with the finely arched brain of the Scotch Lowlander, then read their respective mental traits, from the page of history, and the legible inscriptions written upon their skulls. The first is low, groveling, and unambitious; the second, fiery, elevated, and powerful. The peculiar formation of the brain of the Hindoos show them to be ignorant, superstitious, worthless, cowardly, and unreliable; while the brain of the Englishman proves him to be of a race active, enlightened, and brave. The brain of the Frenchman is versatile, energetic, and distinguished by great vascular excitability, while that of the China-man is dull, sleepy, and dreamy. The Wyandott and Cherokee Indians are beautiful, intelligent, and elegant, whether on foot or on horseback. The Digger and other tribes of Indians inhabiting certain portions of California and New Mexico, are just the reverse of this. In fact I have observed as much difference of character between the many tribes of American Indians, as I have ever observed existing between other nations. The New Zealander is vain, cunning, while the Brazilian is humble, indolent, and unsuspecting. The man of Maine is different from the man of Alabama; the man of Eastern Canada from the man of Canada West. In short, take the "five grand divisions of the human race," together with their sub-divisions, Caucasian, Mongolian, Malayan, American Aborigines, Ethiopian, etc., then contrast one with another and you

will at once recognize the truth of the proposition "that the brain is a number of separate organs, for the manifestation of separate powers."

Some writers attribute human diversity, whether relating to structure, thought, action, or habit, to climate. But of this read a former article of mine on the "Cerebral Development of Nations." I will say, however, in passing, that climate has much to do in the matter of physical and mental national characteristics; but to believe that the mental and bodily powers are cramped and stunted in one climate, and awakened and developed in another, irrespective of primary constitutional conditions, would be the very summit of ethnological absurdity. No doubt the climate has much to do in making the Patagonian and Caffre tall, and the Laplander and Esquimaux short; the body of the Georgian lady symmetrical and globular; that of the Mogul Tartar, flat and angular; the cuticle of the Mingrelian of an exquisite "rose and lily," that of the tropical negro, just the opposite; the form of the ancient Roman one style, that of the ancient Greek another; the mold of the primitive Egyptian of a certain cast, that of the modern Italian, another; but it has not made the wide difference we observe between the Jew and Gentile; between the Druid and Dane, Scot and Fin, modern German and Irishman. These differences are mainly congenital, from the fact, that a Jew, Italian, Englishman, Milesian, Celt, etc., never lose their native characteristics in toto, no difference what climate they happen to inhabit.

If you trace the zoölogical chain of being from the polypus or microscopic animalcule up to man, you will find that as the being becomes more complex and perfect in its structure, it also becomes more intelligent. For instance, the nervous system in reptiles is very small, and simple in structure, the same of fishes, less so, and still less so in quadrupeds. Then, as the brain is given up to be the most complicated piece of organization, it is reasonable to suppose that its duties should be of a high and complex character. Are they not? Yes, indeed, necessarily so, to display the innumerable actions of the mind.

Observation further says, that which proves true of nations also proves true of individuals. Have you not noticed how one person will naturally excel another in mathematics, yet be his inferior in polite literature?—how one will excel another in oratory, yet be his inferior in mechanics?—how one will excel another in poetry, yet be his inferior in commercial pursuits?—how one delights in the description of battle-scenes—nay, even loves the roar of red-mouthed cannon, the whirl of shell, the *hiss* of shot, the rattle of deadly musketry, and the clash of steel, while another loves the greensward, or the peaceful grove or grotto, where he can listen calmly and with joy to the dulcet murmurings of nature's varied voice?—how one grasps with trembling hands the glittering gold for selfish purposes, while another only views it as a means of relieving the sufferings of men?—how one gives tokens of an exquisite appreciation of music, while another is totally

insensible to the most ravishing concord of "soul-inspiring sounds?"—how one manifests a warm and continuous love for the opposite sex, while another is cold, reserved and coy?—how one is tender, devoted, and attentive to children, while another is unkind, exacting, and fault-finding?—how one is distant and indifferent to the world, preferring solitude to society, while another is social, communicative and friendly?—how one exhibits the most wonderful metaphysical power, while another can not follow an abstract idea to a greater length than his nose?—how one clings to his early home and memories, while another roams far away, only happy when amid new minds, new scenes, and new faces?—how one admires the grand, magnificent and great, while another experiences no taste for the romantic, wild, majestic, and infinite?—how one is almost consumed by the goadings and burnings of sensuality, while another is always contemplating the beauties and harmonies of nature? So on through the nature of individuals, diversity is the universal feature. That which stands good in relation to individuals of different and of the same specie, equally holds good in relation to the individual. Select a man or woman from the circle of your acquaintance and note what a marked contrast is shown between the absolute development of particular faculties. This may be termed phonographic style of proof, for it comes immediately home to every one's observation. A man may write with the polished seductiveness of an angel, yet be unable to connect three forcible sentences

together when before an auditory. He may possess a remarkable talent for generalization and classification, yet be sadly deficient in verbal memory and language. He may be a star of royal magnitude in the theatrical world, yet be a perfect sap-head in matters of natural science. He may be a full-orbed encyclopedia as respects geology and astronomy, yet be lamentably deficient in artistic ability. He may be a distinguished judge of law, yet be unable to defend a case properly. He may be a good theoretical physician, yet a villainous and dangerous practical one. He may be excellent in making a bargain, yet be unable to speak the King's English correctly. He may be exceedingly fascinating and humorous when in the company of ladies, but grievously dull and leatherly when in the company of men. He may possess a splendid talent for making money, yet be able to manifest but few ideas above those of a gnat. So on throughout the realm of mind, God has given men special gifts, each differing from the other as the stars differ in glory—some one talent, some two, some ten, etc., and it behooves every person to know what is the character of the gifts which he or she does possess. Who can tell with scientific certainty? We answer, the "practical anthropologist or phrenologist!"

All diversity and peculiarity of both national and individual mentality emanates from a plurality of brain-organs in different degrees of quality and development. Each conception, desire, and act takes shape while on earth from organization, or from the special centers of

the brain; and here lies all the difference, or the principal difference, that is found to exist between one nation, one person and another. Insanity, also, offers considerable testimony in favor of this doctrine. You seldom behold in lunatic rooms a patient totally deranged on more than one subject. If you do, you will also find that the entire brain is in a diseased condition. What we term diseases of the mind are nothing more nor less than abnormal, organic action of the brain. Cure the instrument of mind, the brain, and all mental irregularity will cease. Some men become insane while studying the abstruse sciences; that is to say, by overtasking the faculty of causality they become cerebrally diseased, and lose the power of logic. Others become demented by overtaxing the opposite, revengeful, or destructive powers. Others by an over-excitation of the social, amative, musical, ethical, acquisitive, or poetical faculties. This being the form that insanity generally assumes, it would be well for educators and physicians to look to it.

When the mind of an individual is altogether disjointed in its operations, the knife of the anatomist will show you that each fiber, layer, and convolution of the brain is badly diseased, thus giving origin to all those irregular and discordant actions common to insanity. To illustrate: If you bring the full, hot rays of the sun to a focus, through a single medium, the object acted on will be injured. On the same principle, if you cause the mind to continuously dwell on one subject, or act through one

organ of the brain, you germinate disease within that organ. For example, if the entire force of the blood should be cast to a given artery by the propulsive power of its ventricles and valves, the function of that part would be instantly destroyed. A very slight non-equilibrium in the circulating fluid will sometimes produce an unpleasant action of the physical and mental organs. The phenomena of spectral illusions and hobgoblin dreams, as remarked by Magendie, all point to the fact that the doctrine is founded in nature. Partial genius and partial idiocy both harmonize with the theory. For instance, a man of genius will often show several powers of the mind with an extraordinary degree of energy, yet be unable to take care of himself. Take Poe, Goldsmith, and Ben Jonson for example. On the other hand, an idiot will give no evidence of intellectual possessions, yet manifest more morality and finer sentiments of obedience than many a gifted and garnished poet. Take the history of the humble idiot Bazin, and contrast it with that of Lord Gordon Byron, for example. In fact, there seems to be as many distinct types of idiocy, talent, and genius, as there are ordinary types of men. Some of the best mimics in the world are almost idiotical, while the poorest mimics are usually found among statesmen and philosophers. I will not have space to present the facts in relation to this doctrine, gathered from experiment and consciousness, but will conclude by saying that man is a vast storehouse of special organs of sense, wherein the integrity of

one can not be maintained without the mutual assistance of the other. An unbroken sympathy pervades them all, thus "forming a beautiful and complex structure, made up of equally beautiful and complex parts." The brain is a vast library, containing within each of its furrows a distinct and separate intelligence for each distinct and separate subject; and if these facts were generally known and recognized in the halls of legislation, thousands of the ills of life would be swept at once into the receptive vault of oblivion.

"Lulled in the countless chambers of the brain,
Our thoughts are linked by many a mystic chain;
Awake but one, and, lo! what numbers rise;
Each stamps its image as the other flies."

The whole science of mind must, in part, be built on a correct pathology and anatomy of the brain.

CHAPTER III.

THREE-FOLD BEING.

MAN, as he exists on earth, is a three-fold being. By his inferior qualities he stands related to the animal kingdom, and this portion of his nature, being earthly, resolves itself into its primitive constituents at the death of his body, with the capability, however, of assuming new forms. Through his five senses, ears, nose, eyes, etc., he holds intercourse with the material universe. These instruments of sense are also earthly, as they spring from physical organization, and the very conditions of organization imply and necessitate change of form and structural decay. By his superior faculties he holds communion with the internal world, or world of ideas. This part of his nature, as can be readily demonstrated, is capable of indefinite expansion, and constitutes, in its full growth, man's immortality, "and leads him to infer no less than revelation commands him to believe," that he is the favored creature of a never-ending progression. Owing to his possession of these higher powers, he is rendered a proper subject for future as well as present rewards and punishments, in spite of all declarations of a panthe-

istic, deistic, and atheistic character. Physically, he is composed of eight grand systems, termed solids and fluids, which act and react on each other, by virtue of mutual attraction and sympathetic repulsion. To briefly describe these:

First, the skeleton, or frame-work, consisting of two hundred and forty bones, with their ligaments, giving shape to an extent, together with power of motion and solidity. Second, a muscular system, composed of five hundred and twenty-five muscles, with tendons attached, by which various mechanical duties are executed. Combine these two systems and you have what the phrenologists call the motive temperament. Third, cellular system, formed by countless interwoven fibers which, in the aggregate, produce tissue and give symmetry to the body. Fourth, a lymphatic system, which counterbalances the vessel of nutrition, thus preventing plethora. Combine these two, you have the indolent "phlegmatic temperament." Fifth, an arterial system, through which the red blood is carried from the heart to every portion of the animal economy, thus supplying the requisite sustenance for brain, nerves, each and every organ. Sixth, a venous system, with the peculiar property of returning the blood from its most remote corners, by capillary attraction, back to the heart. From these two the sanguinous temperament is compounded. Seventh, a "nervous system," consisting of the cerebro-spinal center, together with round and flat cords, called nerves, which branch

off to all the textures of the body. From this originates the "mental temperament." Eighth, an "organic system," embracing heart, lungs, liver, stomach, kidneys, spleen, pancreatics, and all those internal organs contained within the trunk of the body, which create energy and strength. From these springs the "vital temperament."

Four lectures would be necessary to the proper analysis of the temperaments, but I am not lecturing, remember.

Mentally a man is composed of three systems: First, a number of propensities common to animals; second, a number of faculties common to intellect; third, a number of spirit-powers common to religion and intuition. Like the eight grand systems of the body, these mental systems are separate and independent, although agreeably related and sympathetic; yet the office of one is never performed by another. For example: the faculty of "ideality" can not perform the function of calculation, nor can "sublimity" evince power in the realm of "mirthfulness," nor "veneration" in the department of "concentration," and owing to this, it is the limit of imbecility, for teachers and others to attempt to cultivate the mind promiscuously. Yet we have thousands of scholastic gentlemen, who imagine, nay, really teach, that a man can develop his power of logic, for instance, by the study of Greek, and the power of imagination by the study of numbers. Although educational conditions are much

more favorable and progressive now than ever before, much yet remains to be done in order to give each boy and girl the highest, special, practical, bodily, and mental training of which they are susceptible. It is very unpleasant to the practiced eye of the man of the world to see how often the natural talents of a child are perverted by a narrow-minded teacher or parent, and in the course of time obliterated for the want of proper mental nutrition. If a boy possesses a "natural talent" for drawing, making wooden boats, life-boats, wagons, tops, etc., he will probably be whipped or reprimanded a dozen times within a session, and compelled to pitch indiscriminately into villainous Latin, perplexing Hebrew, or useless Greek. In a few months the boy is a failure in the dead languages, and, sad to say, a failure in inventive and mechanical skill, of which he promised, in youth, so much. Thus is God-given, natural power repressed, and often quenched, and artificial, hardly-acquired nothings engrafted. The absurdity of the "popular proposition," that the study of mathematics develops general power of mind, is obvious to every philosophic mind. Yet as many hold to it, because it emanated from a college hall, I will present a little evidence. In the first place, I claim that each part of the brain, like each part of the body, is the seat of a special power, and can only do the duty assigned it. We all know that imagination and reason are two separate entities, and that the operations of one can never be mistaken for the other; further, that the

eye and ear, the heart and lungs, the ventricles and auricles, etc., are separate solids. Now, when you can show an eye that can be improved by the cultivation of an ear, or a heart that can be developed by the cultivation of a lung, or a ventricle that can be strengthened by the cultivation of an auricle, then I, as a direct and analogical debater, will confess that the proposition of the school-men is right, and the declaration of physiologists wrong.

As the organs of respiration and digestion require their particular aliment, so the faculties of the mind demand theirs, and when the needful food for them is not found, or not in proper quantities, then we have either partial or diseased mental manifestations. To make this perfectly plain, if your muscles are weak, you don't cultivate your optical nerves with a view of solidifying them. If the intercostal muscles of your chest required development, you would never think of exercising the leaders of your ankles with a view to making them strong. No, you would take a pair of wooden bells and make an immediate appeal to the exact locality of weakness, and thus ward off consumption or ill-formation of chest. Yet, on this same principle many of you are educating, or trying to educate, the multiplex and mystic attributes of the human mind. For the sake of humanity, truth, and success, forever cease it, and see that each faculty has its proper nutriment. Never give, for a muscular derangement, a nerve remedy; for a heart disease, a liver rem-

edy; for a pancreatic complaint, a kidney remedy. Never feed "imitation" on the food of "constructiveness;" never feed "acquisitiveness" on the food of "benevolence;" never feed "destructiveness" on the food of "adhesiveness," nor "hope" on "caution," nor "firmness" on "approbation," etc., but give to each their requisite stimula. In remedy, exercise nutriment and disease; in thought as well as deed, present just such ingredients to the faculties of perceptivity, intellectuality, trunk of body, and center of brain, as the nature of each would seem to warrant. Give to the faculty of language, synonyms; to locality, places, geographical scenery; to comparison, the world of analogy; to causality, the realms of cause and effect; to sublimity, the roaring, dashing torrent and craggy steeps, the lowering clouds, and crashing thunder, etc., and I guarantee that if you possess a fair hereditary cerebral endowment, with such culture you can safely take your daring flight up, up the hill of fame. If one of your faculties is too active, restrain it; if too sluggish, cultivate it. Is the pulsation of your heart too active? decrease it; too slow? increase it by exercise; liver torpid? awaken the secretions; brain stupid? heat it up. Create activity by speech, study, and manipulation; muscles weak and flabby, and nerves very respondent, as is usually the case, go to work on your muscles. Increase, also, the circulation of your blood, and quit thinking so much. Sleep more; throw up and down, backward and forward, your arms; chin the rail, swing your body by catching

hold of something safe above you; go hop, skip and jump; box, wrestle, and avoid, by all means, vicious habits.

Then, again, as I have already remarked, the faculties of the mind, like the bodily organs, are sympathetic, and interlinked and governed by the law of innate correspondence and fellowship. First example: The brain can not perform properly its offices without the heart keeps up its regular supply of arterial blood, nor can the stomach secrete the gastric juice without it is supplied with blood, nor can it be supplied with the requisite amount of rich blood without the materials of nutrition are furnished in proper quantities; nor can the function of digestion be carried forward to completion unless the sublingual, parotid, and gastric glands loan their assistance. And so on throughout the entire mechanism of animal formation, you behold an elaborate circle of dependencies and sympathies, each portion, whether composed of solids or fluids, acting and reacting on the other; yet, like a brick in a house, each separate and distinct, and each required to form in full the massive building. On this same principle the faculties work, whether they are primarily of divine origin, with the attributes of the Deity in each, or but an emanation of nervous, organized matter. The following is a simple example: If the passions are unduly influenced they transmit their irritating influence to the intellect, which, in its turn, is thrown into a state of activity, and instantly communicates its impressions to

consciousness, which sits in judgment over all the jointed as well as disjointed actions of the mind. Consciousness, then, examines the evidence as exhibited by the different faculties and propensities, and renders a final decision, whether for good or evil. An artist, in the production of a portrait, could not fill up the design by the use of "color" alone, although color is a leading ingredient in painting, and could not be ignored without making futile his attempt. He, with a view to perfecting his picture, will invoke the aid of form, imitation, constructiveness, ideality, etc., for each of these stand necessary to the completion of his work, yet none could do the work of the other. No man could possibly be a philosopher if the faculty of causality was deficient, nor could he be one if causality was seven in degree, coupled with an active temperament, unless the faculties of continuity, individuality, and comparison were called in conjunction. No man could be an orator by the reflex action of language alone, but by adding sublimity and ideality to the extent of seven in degree, oratorical effects are invariably produced. This style of example could be run throughout the entire chain of the mental powers. Here is another illustration, taken from the physical structure:

If some extreme portion of the body (the finger, say) becomes diseased, the sore extends its irritating influence to a nerve of sensation, which passes the feeling to a nerve of motion, which, in its turn, transmits a knowledge of what is going on in the body to the brain or mind,

wherein all the transactions of life are represented. The brain being the seat of justice and intelligence, now commences the complicated though perfect action of the entire mental and physical machinery. The vital forces are in full play on the spot diseased. The nervous energies obey the mandates of the *will*. A little motor cord moves the tongue so that the sufferer can speak, while another gives sensation, so the mind may know where the pain is located, while still another runs from one portion of the body to another, carrying information. Thus a slight hurt will bring into requisition all the diversified powers of our nature, showing up, in unmistakable colors, the law of sympathy, correlation, and attraction.

CHAPTER IV.

SUGGESTIVE.

I PROPOSE in this chapter to deal in general observations, rather than confine myself to any particular department of science. When we take a "bird's-eye view" of a vast throng of men as they pass through a crowded metropolitan street, and note the diversity which invariably exists, in reference to physical structure, facial expression, configuration of head, and style of temperament, we are immediately reminded of "Young's Apostrophe," in which he says:

"How poor, how rich, how abject, how august,
How complicate, how wonderful is man!
Surpassing wonder! He who made him such,
And centered in him make such strange extremes
Of different natures, marvelously mixed
Connections exquisite of distant worlds;
Distinguished link in being's endless chain,
Midway from nothing to the Deity;
A beam ethereal, sullied and absorpt;
Though sullied and dishonored, still Divine!
Dim miniature of greatness absolute;
An heir of glory; frail child of dust;
Helpless, immortal, insect, infinite!
A worm, a God! I tremble at myself,

And in myself am lost. At home a stranger.
 Thought wanders up and down, surprised, aghast,
 And wondering at her own how reason reels,
 Alternately transported and alarmed. What joy! what dread!
 An angel's arms can't keep me from the grave,
 Legions of angels can't confine me there."

In Pope's ingenious "Essay on Man," we find words also calculated to make us ponder well the nature and destiny of man. In one portion of the book he says:

"Awake, majestic mind, leave all meaner things
 To low ambition and the pride of kings.
 Let us, since life can little more supply
 Than just to look about us and to die,
 Expatiate free o'er all this scene of man—
 A mighty maze, but not without a plan;
 A wild where weeds and flowers promiscuous shoot;
 A garden, tempting with forbidden fruit;
 Together let us beat this ample field,
 Try what the covert and the open yield:
 The latent tracks, the giddy heights explore,
 Of all who blindly seek or lightless soar—
 Eye nature's walks, shoot folly as it flies,
 And catch the manners living as they rise;
 Laugh when we must, be candid when we can,
 But analyse and hold in check
 The wayward mind of man."

As I have no copy of Pope convenient, I quote from memory, and it may be the "brilliant" poet suffers in consequence.

Why one man so coarse, another so fine; one so nimble, another so clumsy; one so bright, another so dull; one so

wise, another so foolish; one so poetic, another so practical; one so domineering, another so submissive; one so suave, another so surly; one so stingy, another so liberal; one so social, another so distant; one so progressive, another so snail-like; one so tender, another so vicious; one so spiritual, another so sensual; one so diplomatic, another so transparent; one so game, another so timid; one so enterprising, another so indolent; one so serious, another so gay? In brief, why long ears, short ears, lop ears, thick ears, thin ears? Why sparkling eyes, stupid eyes, beady eyes, squint eyes, open eyes, gray, black, blue, etc.? Why dimpled chin, flabby chin, round chin, sharp chin, angular chin? Why pointed nose, flat nose, crooked nose, straight nose, celestial nose, pug nose, le grand nose, le contemptible nose, no nose at all, and nose beyond limit? Why clear-cut brow, lowering brow, shaggy brow, arched brow, etc.? Why thick lips, thin lips, compressed lips, curling lips, loose lips, tight lips, etc.? Why big mouth, little mouth, coarse mouth, delicate mouth, catfish mouth, lobster mouth, sucker mouth, and snappish, wolfish mouth? Why brown, red, black hair, etc.? Why different degrees of fineness and stiffness? Why does climate, water, living, modify a man's disposition, either for better or for worse? These, and countless questions like these, it is the province of anthropology to expound. For a series of generations the mysterious connection existing between mind and body, life and death, hope and fear, demand and supply, God and man, formed a theme of

the most exalted and intense interest. Philosophers, poets, moralists, and divines, made this a leading and favorite study during the days of Socrates, Pythagorus, Democritus, Plato, Aristotle, and others, but owing to the incompleted state of the physical and mental sciences, very little progress was made in the premises. Many years elapsed before the subject was again taken up with the same degree of energy and talent that characterized the Grecian and Roman attempt, and when the time did roll around for men to grapple, for the hundredth time, with the great problem, which includes within its inquiries nearly all relative to the moral, political, social, physical, intellectual, ponderable and imponderable worlds, they found that chemists, botanists, geologists, physiologists, phrenologists, etc., had developed, by their united efforts, a substantial basis for future operations and explorations in this field. The world of scientists have given this study a name which is now recognized throughout the civilized nations of the earth. "Anthropology" is the name, and I claim for it the highest seat in the estimation of those who are above the dust of bigotry and passion, for it is indeed high above all other questions of debate. In spite of all the anathemas which were formerly hurled against it, every liberal, scientific man of the nineteenth century looks upon it as the key to all correct legislation, morality, national and general advancement.

Anthropology, defined, means "the science of man in

toto, considered in his organization, derivation, and multifiform relations." Antecedent to its development, scholastic men in general were in the habit of treating of man from a very meager and fragmentary stand-point. One class of metaphysicians treated of him as being all body, another as being all spirit, another as an electric battery, another as the sum total of the "animal creation," another as the joint effect of the atmospheric mineral and vegetable regions, and so on without limit. According to the views of the first, life, memory, thought and volition come from organization, and being purely physical phenomena, would surely cease to exist at the death of the body. Deductions drawn from the tenets of the second class lead directly to the interminable realms of idealism, which doctrine teaches that our existence consists of nothing more nor less than a number of spiritual impressions, there being no such thing as a material object, as chair, book, etc. Consult Bishop Berkeley as to this theory. According to the third, the faculties and passions are wrought and made manifest by the flashings of electricity up and down the nervous system, and through the ganglionic centers of the brain. According to the fourth, man is but the "king of beasts," possessing the five senses in a somewhat higher and more perfect state of development, yet forever limited to this terrestrial sphere. According to the fifth, morally considered, man is an "organic puppet," drawn here and there by invisible strings originating, doubtless, in some one or more

of the sublimated stratas of the "mystic kingdoms." And thus we might proceed, but deeming this sufficient in the line of the visionary and absurd, we pass to something of more importance, saying, however, *en passant*, that anthropology embraces what of truth there may be in any of the above partial views of man.

In some of these metaphysical fragmentary theories of man, laws have been framed and governments instituted, and owing to this fact, the theater of life has, in every age of the world's history, presented an unbroken scene of moral, mental, and social desolation. Thousands of the ills with which humanity suffers, and has suffered, can be traced beyond the bloody gate of war, and the iron gate of prisons, and the rude grip of law, to one or more of these perplexing, speculative productions of the unscientific, metaphysical school of authors. We may expect to be unable to legislate successfully, and govern the masses properly, so long as we hold to abstract dogmas, and listen not to the voice of "science and reason." Men are, and will ever be, in a state of partial ignorance and confusion with respect to their three-fold natures, and will so remain until lashed into the study of themselves, by the demands and spirit of the age. Men make up society, and society teems with crime, misery, and hypocrisy. At present, as in the past, they study the surface of the earth, together with its effects, the imponderables of air, and even the "starry dome" above, yet seldom attempt to analyze the structure of their own bodies, or the complicated and in-

structive mechanism of their own minds. So ignorant, indeed, are they of their aptitudes and deficiencies that they fail in the selection of their vocations seven times out of ten, and more than two-thirds of the human race vote life stale, flat, and unprofitable, as Shakspeare has it, from the fact that they heeded not the admonitions of the great ones long since gone, embraced in—

“Know, then, thyself;
Presume not God to scan;
The proper study of mankind is man!”

What is the method by which one gains self-knowledge? you ask. We answer, through the mediumship of anthropology. What is modern anthropology? It is an embodiment and classification of all those various links in the nature of man, which are revealed, to an extent, by every other collateral branch of science. In its immediate and remote practical application to the affairs of life it is almost illimitable, and the progress of time and advance of knowledge will only render it more thoroughly believed, more highly venerated, more boundless and perfect.

By whom were these connecting links and facts discovered? By every scientific mind from the twelfth to the nineteenth century. Of late years Humboldt, Jean Paul, Göthe, Bacon, Mallebrauch, Newton, Agassiz, Owen, Locke, Stewart, Read, Spinoso, Brosais, Combe, Gall, Spurtzheim, Vimont, Magendie, Bell, Walker, Wells, Buchanan, Gregory, McNish, Mann, Beecher, Fowler, etc., have each done their share.

Gall, the greatest of all, should be worshiped by the others, with all the glowing enthusiasm with which the primitive Egyptians were characterized in their adoration of "Osirus," their dominant "Sun-God."

Anthropology has not jumped from darkness to light at the first bound, but, like astronomy, slowly by the path of observation and deep reflection. It covers the entire ground of man's original and acquired constitution, thus treating of him socially, morally, physically, and intellectually. It points out with undeviating certainty the hypocritical from the honest, the immaculate from the impure, and explains systematically and accurately the laws of life, mind, immortality, and what ethical and material conditions harmonize and what disagree. It also treats of quality, quantity, solidity, as indicated by the size, shape, and texture of the brain, thus mapping out what forms of head and temperament are required for the exhibition of special traits of character and talents. Of what importance is it? Why, it teaches you whether to shun or court this or that vocation, how to cultivate this or that organ or faculty. In brief, it is the key that will unlock much which is enveloped in deep mystery; it will instruct you as to the treatment of the insane, the blind, the deaf, the imbecile, the drunkard, the criminal. It will tell you what kind of partner in business to select, what kind of a wife is best adapted to you; in what line of business you'd best excel; how to increase the power of all your religious elements; how to become imaginative; how to become log-

ical; and how to read every man and woman flaunting by.

What is its province?—Its province is to group together in a systematic and compact form all the diversified phenomena of man, so that the student of nature can make such deductions as the relative strength and quickness of his perceptive and reflective faculties will admit, and to this point he can proceed safely by the light of observation, experiment, and analogy; but all beyond is wrapt somewhat in speculation and darkness, and the student who strives to penetrate the exact peculiarities and wonders of the unexplored country, without either map, compass, or chart, will, sooner or later, receive a shock of the most deadly kind.

In view of the points presented, I feel no hesitancy in recommending anthropology to the favorable consideration of all.

CHAPTER V.

ON THE DIVISION, LOCATION, AND FUNCTIONS OF THE MENTAL ORGANS.

THE human mind may be regarded as a simple operative principle, giving rise to a series of separate faculties, by its conjunction with a multiplex system of cerebral organs.

What is a mental faculty?—It is a simple effect developed by the combined action of brain and mind.

What is a cerebral organ?—It is a material instrument by means of which the mind manifests a particular or special power.

How are the powers of the human mind grouped?—Under three leading heads.

What are they?—Intellect, sentiment, and propensity.

To what do they refer?—The first has reference to the reflective, perceptive, recollective faculties; the second, to the intuitive, domestic, and aspiring; the third, to all those varied impulses of man common to animals.

Where are the intellectual organs located?—In the frontal lobes of the brain.

What portion of the brain do the sentiments occupy?—
The crown of the head.

What portion the propensities?—The posterior and side regions of the brain.

What are the names of the intellectual organs?—Causality, comparison, individuality, eventuality, language, sublimity, ideality, locality, form, size, weight, color, order, mirth, time, imitation, calculation, tune, and constructiveness, and continuity.

What is the office of causality?—To reason, analyze, and investigate. It is the fountain of abstract ideas, and when large and duly cultivated, gives a man a penetrating and philosophic cast of mind. Conjoined to comparison, eventuality, and language, it makes the polished and acute debater. Data for reasoning is furnished causality by means of the knowing group. For example, in the discussion of a given theme, eventuality furnishes facts, historical events, and minor details, while comparison points out their identity, analogy, or difference. Causality, then, analyzes the data in proportion to its volume, and draws conclusions. Take two persons, one possessing large eventuality, but deficient causality, the other large causality but deficient eventuality, and explain to them the construction of a given piece of mechanism one day, and ask them about it the next, he in whom eventuality predominates will remember exactly what you told him about it, yet be unable to grasp the principle, while he in whom causality predominates will not

recollect your description, yet be a perfect master of the principle. If we look over the portraits and busts of Terence, Virgil, Horace, Ovid, Milton, Pope, Young, together with all the great thinkers of all ages, so far as they are handed down to us, we behold the exceeding prominence of this organ. Every deep thinker in America possesses causality large. Take the heads of Horace Mann, Daniel Webster, Ralph Waldo Emerson, and a host of other American worthies, and you will note an exact coincidence between the development of causality and the strength of their reasoning abilities. Take the busts of Locke, Bacon, Shakspeare, Gall, Combe, and Magendie, and you will observe this God-like form of head, and are not their writings in unison with this fact? Yes; for no man can be a clear metaphysician without this configuration, and we point to the living heads around you, and to the history of the great ones, long since gone, in proof of the assertion. If the organ under consideration be very deficient in an individual, he will find it very difficult to follow up a chain of reasoning, and will be much better pleased in some subordinate sphere, than in one in which profundity of thought is required.

What is the office of comparison?—Through it the mind detects resemblances. It is quite different from causality, and is never productive of sound logic. The mind through it reasons altogether by analogy, and often tries to convert an illustration into an argument. It forms a leading ingredient in the study of comparative anatomy and

physiology. Through the organ of individuality we survey the external world. It is located in the lower part of the forehead, immediately above the nose, and when duly cultivated renders its possessor exceedingly sharp in observing objects and substances. When naturally large it gives an aptitude for acquiring the mere facts of physical science. It seems to be the most prominent organ in the study of botany, geology, and mineralogy.

Through the organ of eventuality we take note of changes and events. It is situated just above individuality, and when large gives to its possessor a splendid memory of details. It is the leading element in the brains of ordinary politicians, as it enables them to present a vast realm of historic knowledge to an auditory, which is often regarded as the emanation of genuine talent. Some men build up a permanent reputation as a stump orator by the simple action of this organ. Teachers and parents foster this power in their scholars and children too much, and make memorizers out of them when they should make debaters. It paralyzes the intellectual processes very much in a person who is forever spouting the ideas of other men.

Through the organ of language, we express in words the feelings and conceptions by a certain faculty or combination of faculties. It is located in the posterior part of the upper orbitary plate. When large it gives the eye quite a projecting appearance, and renders its possessor a fluent and copious talker.

Its action is altogether unpleasant and irksome when not toned down by good sense. Through the organ of sublimity we appreciate the grand and infinite. When too large it leads to *bombastical* expressions, and confers on its possessor a wild and ungovernable passion for the romantic, majestic, and boundless. Through the organ of ideality we are brought in relation to the beautiful and perfect in nature and in art. When expansive it gives splendor and elevation to all the other faculties, and renders a person tasty and refined.

Sublimity, ideality, constructiveness, and imitation form the leading artistic group. They make the thorough landscape painter, the finished engraver, the exquisite penman; in short we have a genius for mechanics. If conjoined to large causality, we have the gifted poet and elegant essayist. The two organs last considered produce a glowing imagination, a passionate fondness for the magnificent, a fervid love of oratory, dash, good style, vim, poetry of motion, beauty of expression, and often develop the highest order of refinement as well as the highest order of sickly sentimentalism. Through the organ of locality we recollect places. When large, a place once seen is never forgotten. It forms vivid and distinct impressions of scenery. Persons in whom this organ is predominant are passionately fond of contemplating every variety of pictures, whether upon the brow of a mountain or upon canvass. It is the leading ingredient in the finished geographer.

Through the organ of calculation the mind is brought

in relation to figures; when large, it confers tact and quickness in casting up accounts. Those who possess it in an eminent degree, take great delight in the studies of arithmetic, algebra and geometry, but experience but little pleasure, as a general thing, in literary and philosophical pursuits. The Jews have this organ very large in conjunction with full acquisitiveness, and there is no race on earth that can excel them in the book-keeping or money-making line. Through the organs of form and size, we stand in relation to magnitude, breadth, thickness, length, height, depth, etc. A person who has these organs predominant can distinguish, with remarkable accuracy, the width of a board, the size and height of a horse, or the difference, physically, between one man and another.

Through the organ of weight we have a knowledge of the laws of gravity and motion.

Through the organ of color we perceive the relation of different tints, their harmony or discord. Some persons are almost destitute of this power. They are called color-blind, not being able to distinguish green from blue, or brown from red, or black from gray. Their defect is attributable to imperfect vision, caused by a diseased condition of the retina or eye-ball. This is a mistake, however, for we find that imperfection with reference to color arises from the non-development of its organ, and the imperfection of the optical nerve.

Through the organ of order, the mind is brought into relation with the harmonious and inharmonious arrange-

ment of different objects. Some housekeepers keep every thing about them in a very precise and elegant style, while others scatter books, chairs, tables, etc., all round the room, and have every thing in utter confusion.

Through the organ of time, the mind takes note of the lapse of minutes, hours, days, months, years. Some possess this organ to such a degree that they can tell the exact time of day without recourse to a clock, or tell the exact time in which any thing of an unusual nature occurred. Others have no power in this way, and take no pleasure in remembering dates or time.

Through the organ of tune, the mind is brought under the influence of melody. Large tune will give an individual a fine appreciation of music; yet, if it is not coupled with ideality and time, it will never render him an accomplished performer. The busts of Thalberg, Mozart, and many other eminent physicians, show a remarkable development of this faculty.

Through the organ of mirth, we have a perception of the absurd and ridiculous. When large, it gives a disposition and ability to joke, make fun, and laugh at whatever is improper or ill-timed.

Through the organ of constructiveness, we are enabled to use tools with dexterity. If large, it gives fine mechanical skill.

Through the organ of imitation, we are enabled to assume the gestures, movements, and looks, of others. When large, it gives a talent for acting, and is the pre-

dominating organ of all celebrated artists, comedians, and pantomimists.

Through the organ of continuity, we are enabled to fix the mind on a practical or abstract theme, and keep it there, until the problem, whatever it may be, is solved. It imparts to a man patience, and causes him to dwell on a subject with connectedness and amplification.

What are the names of the sentimental or religious elements?—Hope, or faith, spirituality, conscientiousness, veneration, and benevolence. Where located? Answer. In the coronal region of the brain.

What is the office of Hope?—Through the organ of hope, man is put into relation with futurity—he thus being enabled to experience cheering expectations of a higher life beyond.

Through the organ of spirituality, man is enabled to trust to prophetic whisperings of the light within, and perceive things independent of the senses.

Through the organ of conscientiousness, man is placed in exact relationship with truth, justice, and the eternal and angel-like sentiments of equal rights to all men, and the greatest good to the greatest number.

Through the organ of veneration, man is placed in direct receptivity to the grandeur, illimitableness, and perfection of God and his works.

Through the organ of benevolence, man is placed on the plain of sympathy, kindness, and humanity, and is thus rendered a self-sacrificing being.

What are the names of the propensities, and where located?—They are located on the side and base of the brain. Lowest in the occipital region we have amative-ness. Through this organ, man, by nature, is attached to the opposite sex, and desires to love, be loved, and mated. It is the grand central reproductive organ of the animal system.

Through the organ of parental love, man is rendered fond of his own offspring; in fact, kind and considerate to all children.

Through the organ of adhesiveness, man is rendered a social being; through the organ of inhabitiveness, a home-like, home-loving being; through vitativeness, a life-loving, death-resisting being; through combativeness, a determined, courageous being; through destructiveness, a harsh, destroying being; through alimentiveness, an eating being; through aquativeness, a drinking being; through acquisitiveness, a hoarding, saving, amassing being; through secretiveness, a politic or diplomatic being; through caution, a provident, watchful being; through approbateness, a character-regarding and ambitious being; through self-esteem, a dignified, composed being; through firmness, a tenacious and persevering being, etc. So in all God's departments of organic and functional life, means, organs, or instruments are used for the accomplishment of every purpose.

CHAPTER VI.

LOVE AND MARRIAGE.

THE subject of love is one of extreme delicacy, although of vital importance and illimitable in its range. An attempt to define it in the abstract would show great ver-dancy on the part of any lecturer. And why? Simply because every person of mature mind has a definition and a limit corresponding to previous experience.

Victor Hugo and De Stäel defines it in one way, Lola Montes and Shelley in another. Modern poets, philosophers, and lovers, seem to be about as chaotic and uncertain as to the true definition of love as were Plato, Pythagoras, and other classical sages of antiquity.

It would appear, then, that every individual possesses a peculiar or individualized conception of this term, which is derived from organization, habits of thought, and mental surroundings. The term love is of Saxon origin, and was called "*Lupu*" by the primitive Asiatics, and was supposed by them to be the motive force underlying all good, and the quickening spirit of all mentality.

To prove to the reader that all the definitions given, until recently, are purely arbitrary, we have but to make a few quotations and contrast the definitions given by

Caligula, Drusilla, Tourrette, Montmorency, Michalau, Catiline, Orestilla, Alfieri, Aristotle, Mohammed, Brigham Young, Queen Elizabeth, and others.

Webster says love is an affection of the mind, excited by beauty and worth of any kind; the opposite of hatred. Oliver Ledana does not regard it as a distinct entity in human nature, but defines it to be an effect produced from the combined action of esteem and selfishness.

Poetical lovers, how do you like this latter definition? Jean Paul says love is the rapport existing between magnetic organizations similarly constructed. Swedenborg resolves it into a spiritual sympathy, while St. Prosper says it is the discovery of our soul's antitype, the meeting of an opposite whose nerves vibrate with the exquisite vibrations of our own. Thus, you perceive, that the view of Swedenborg is spiritualistic; that of St. Prosper materialistic.

Fenelon says love is a religion, because God is love, and religion is a part of God. Tennyson, even now in the days of his sere and yellow leaf, resolves love into a kiss, and makes the soul subservient to it by saying:

"Last night, when some one spoke your name,
Thro' my swift blood there went and came
A thousand flashing darts of flame,
Quivering in my mental frame.
Oh, love! oh, fire! oh, Clio Drew!
That nectar kiss drew my soul through."

Sir Wm. Hamilton calls it a study of endless mystery,

beauty, and propriety; and De Wolf, after acknowledging the same, winds up thus:

"Oh, royal love, though offspring true of an aspiring age,
Well worth the poet's praises high, the study of the sage;
Let many nations value thee, for wondrous is thy plan,
Thou provest the study of womankind is as it should be—man.
All hail to the platonic love! all hail the essence grand!
'T were better if this world of ours would know and understand;
The infidel would then forget his doctrines, cold and drear, [fear."
And husbands would daily learn the more their wives to love, not

Have any of you lovers yet realized the beautiful lines of Pope, as modified by Dr. Mason Goode as follows:

"Look round the world, behold the chain of love,
Combining all below and all above;
See plastic nature working to this end,
Atoms to atoms, clods to crystals tend;
See dying vegetables life sustain,
See life dissolving vegetation gain,
All served, all serving, nothing stands alone,
The chain holds on, and where it ends, unknown."

The Greek Moschus describes love as an embodied substance, thus:

"The boy has many marks that thou may'st tell
From twenty others; heed them well.
Not black his skin, but of a fire-red hue;
His eyes like flame, keen, sparkling to the view;
A mischief-making fellow; a talker, very sweet;
His thoughts belie what his soft lips repeat."

The artists have taken up the notions of Moschus, and

painted a dumpy, round, chubby, dimple-chinned boy, with a handful of slender, sharp-pointed darts, ready to be hurled at any young gentleman or lady who may chance to become his victim.

They have christened him Cupid, and he stands in all the galleries of art. Concerning him a poet has said:

"Fair, curling ringlets cluster round his head,
Tiny his arms, but far his darts are sped;
E'en to the banks of the Acheron
They wing their feathered aim,
And strike the queen and king."

And now, with these remarks, we are prepared for the discussion of our theme in a practical manner, and invoke the light shed upon it by the physical and mental sciences of the nineteenth century. Love is a compound affection, consisting of admiration, esteem, benevolence, animal and social desire. The reason, then, why all sensible men and women love is because they detect in each other certain qualities, material, intellectual, and moral, which communicate pleasure of a three-fold nature; and just in proportion as they are intuitive, unrestrained, and unperturbed, they can, with scientific certainty, tell their affinity. Do not understand me as holding to the mischievous doctrine of affinity, as taught by the high-pressure philosophers of La Belle France and mercurial Boston; for, undoubtedly, this blind searching after affinities has rendered many a peaceful home desolate, and opened the flood-gates of misery to many a happy mind.

Love is not only a compound element, but it is also susceptible of division. One division may, with propriety, be called general love, the other special love. The first implies a passion of the human mind for some external object, such as a tree, plant, flower, book, state, or nation; the second implies a passion for some one of the opposite sex.

The sequence of the cultivation of the first is information; of the second, matrimony, a conjoining of the masculine and feminine qualities, so that there will be "two souls with but a single thought, two hearts which beat as one." It is with the second division we have to deal in a treatise on marriage.

Marriage is said to be ordained by the Maker of all things, and, of course, is looked upon by the people of every Christian country as a divine institution. Some wild visionists declare that every marriage on earth is preordained in heaven; that is, that there is a matrimonial destiny "which shapes our ends, rough hew them as we may." If this be true, we can not but say that the heavenly contractors are not so very highly skilled in the art of match-making, for we behold every day matrimonial wrecks and ruins, individuals of both sexes laboring under the horrors of a terrestrial hell, simply by virtue of being mismated.

And thus it will ever be until people cast their false theories into oblivion, and use properly their reasoning faculties, with science as their basis. No man should

ever think of entering the matrimonial relations without being able to give a triple reason for so doing. He should scout the idea that love is a single essence, and as blind as the poet portrays it. Love is not a blind passion, but a compound affection, capable of being clearly and safely guided over the shoals and quicksands of life by intellect at the helm.

Intellect is the first, love the second; hence the latter should be subservient to the former. When somewhat younger and inexperienced than at present, I believed the doctrine that love is blind and emotional, without a spark of genuine mentality mixed with it, and went so far as to tell the fair young Evangelines, Helens, Cleopatras, Minervas, and Hebes, that the very moment a young man proposed marriage, and at the same time seemed gifted with speech sufficient to give his reasons in a connected manner, that very moment they should beware, because love and reason are incompatible, and the one can not exist but in total absence of the other. My premises at that time were false, hence the fallacy of my deductions. The best proof of an ardent and manly love is shown when he can detect blemishes, point out excellences, mark well your various attributes, and analyze from cause to effect, even while your love-betraying eyes are swimming with tears of joy.

But to the selection of companions. How can you secure a congenial spirit, a harmonious organization, a *mind whose tones strike in unison with your own*? We

answer, first, by attention and obedience to the laws of physical structure; second, to the laws of emotion; third, to the laws of affinity. Physiology throws light on the first, phrenology on the second and third, and psychology on the fourth.

Nature is always struggling for an equilibrium, and this is a characteristic feature in all her special departments. Man and woman form no exception to this universal law. Let us consider, briefly, the law of physiological adaptation, as physiology forms the basis, or, at least, the facts made known by physiology should be the foundation of every marriage. Our basilar theory resolves itself into this: A thin, spare, nimble, nervous lady, should never conjoin herself to a thin, spare, nimble, nervous man. A full, compact, stocky, plethoric man should never marry a woman of a similar nature; a black-haired and purely bilious person should never marry one of a like temperament; a nervo-vital man should not marry a nervo-vital woman. Blue eyes and thin skin should never join hands. Projecting or lobster-eyed people should never mate. Persons with large feet should always select those of small pedal extremities. Gaunt, angular men, with large osseous formation, should select short, stocky, deep-chested women. A man with a small cerebellum should select a woman of large cerebellum. Persons of deficient respiratory power should look for the most robust pair of lungs in a mate attainable.

If your heart beats too rapidly, try to secure a com-

panion of uniform and slow pulsation. If your brain is too active, and you suffer from wakefulness, secure a "slow coach" of a woman. There are plenty in the world. In short, physiologically speaking, marry your opposite, and remember there will always be a dashing blonde for a stately brunette. Be certain to enter the matrimonial market with a sharp eye to physiological incompatibility, for just as sure as you don't, and marry a person of your own temperament, good by happiness, terrestrial and otherwise—come gloom and Chicago divorce.

The next feature that you must study will be the shape of the head. If your sweetheart possesses a high, narrow forehead, like your own, don't, don't pitch in, however deeply you may be enamored, for such a similarity of forehead can never produce contentment. Instead, rush to the side of the girl of the broad Germanic type of frontal lobe, make the proposition, other conditions being equal, and take your chance of being floored or accepted. If you are thin over, along, and around the ears, select a lady full in that region. If you are depressed about the vertex of the brain, the center of esteem and firmness, select a lady full in that part of the head. If your occipital group of organs are small, marry a woman who possesses them full. If your coronal group is excessively large, let the same of your wife be comparatively full, just enough to tone down and modify your own.

The temporal region should differ in husband and wife,

so the parietal, ethmoid, and superciliary ridge. As to the special developments of the brain of each, they should approximate sufficiently to produce not complete but partial congeniality. Taking the scale from one to seven, a husband and wife (taken for granted that they are cultivated) should run about thus: Moral brain of husband 6, wife 5 or 6; domestic brain of husband 5, wife 6; perceptive brain of husband $6\frac{1}{2}$, wife 5 or $5\frac{1}{2}$; intellectual brain of husband 5 to 7, wife 4 to 6. Then to specify "imitation," in the wife should be 6, the same in the husband, 5 or 6. Husband's "ideality" should be 5 or 6, that of wife $4\frac{1}{2}$ to $6\frac{1}{2}$. Acquisitiveness should be possessed by the husband from $4\frac{1}{2}$ to 6, by wife from 3 to $5\frac{1}{2}$. The husband's hope should range from 4 to 6; that of the wife from $3\frac{1}{2}$ to 5. Bear in mind, also, matrimonially-inclined reader, that there should never be too great a disparity in the relative weight of the husband and wife. Forty or fifty pounds at the farthest should be all the difference. Say the wife weighs 150 pounds, the husband should weigh 190 pounds, or wife 100 pounds, husband 140 pounds, etc. And, lastly, young man, if you are poor do not marry a woman of means. I have never known an intelligent poor man to marry a rich, vulgar woman, but what he deeply regretted it. A woman of a naturally coarse organization, with a plethoric bank account, will always take the inside track of the brightest intellectualist, and beat him at the "game of faro" every time. Don't marry into a consumptive

family, nor what the "vulgar rich" call an aristocratic family, nor a family of "great expectations," nor a family of "has beens," the most villainously disagreeable style of "blow hards" in the world. Do not select a girl who loves to gaze on the "pale Diana" while her venerable mother is industriously engaged in household duties; nor the girl who takes such exquisite delight in proclaiming her total ignorance of the culinary department; nor the girl who languidly deplores her lack of energy; nor the girl who "hates" the physical sciences; nor the girl who is forever saying "what she'd do if rich;" nor the girl who talks "horse," or "opera," of "minstrels" all the time; nor the painted, flaunting girl; nor the abbreviated, distorted, religious-deriding girl; nor the girl with a young dry-goods store hung on her little pinched up, rib-destroyed anatomy; and last, but not least, gentlemen, never, oh! never, as you value your life, marry the girl who winks out of the left corner of her right eye, dips snuff with her ear, speaks one thousand words per minute, and weighs one thousand pounds, and vice versa. Excuse brevity, it is late at night, and I am tired.

CHAPTER VII.

ETHNOLOGY.

ETHNOLOGY is the science which describes the different races of men, including their manners, customs, modes, and religions. It is almost boundless in its grasp, as it includes all nations, all races, all tribes, order, genera, species, and scientifically accounts for the vast discrepancy known to exist between them. This science, when fully developed, will gleam on the world of letters as brightly, regularly, and powerfully as the sun on the surface of the earth, and eclipse all other specific branches, as greatly as doth the lordly, silver-sheened salmon eclipse all other fishes of the waters. I have not sufficient leisure or space to enter into the literature or history of ethnology; suffice it to say, that Cuvier, Blumenbach, Prichard, and Maltebrun accomplished more for it than all previous authors combined. The literature of ethnology is just as varied as are the types of men. By it we learn that the "human race is divided into five grand divisions, each of which being susceptible of almost innumerable subdivisions."

First, the Caucasian variety, regarded by naturalists as the primitive stock. This variety was cradled at the

base of Mount Caucasus, in Central Asia. The subsequent migration of the Caucasians in quest of more eligible abodes, together with their acquired habit of inter-marriage with other blood, developed new bodily and mental characteristics, and new surroundings. This portion of the human family embraces the majority of the inhabitants of ancient and modern Europe, excepting the Laplander and Finish people; also, the present residents of Western Asia, to the banks of the river Obe, and Caspian Sea, namely, the Assyrians, Phenicians, Scythians, Parthians, Philistines, Persians, Armenians, Arabians, Georgians, and Mingrelians, and probably some others, which the limit of my knowledge of physical geography prevents me from mentioning.

The Caucasian race is distinguished from the other four, by finer and more globular heads, more energetic and persistent activity of the moral and intellectual attributes, and a higher degree of physiological and facial beauty. The Caucasians, doubtless, have been, from the remotest periods of antiquity, the pioneers in science, the princes in commerce, the kings in literature, the leaders in mechanics, the heroes in war, the brilliants in art, and the unquenchable motive-force underlying all rational progression, ever turning the wheels of national life, and ever pointing to man's ultimate, immortal destiny.

From this venerable parent Caucasian stem emanated the lightning-like, Anglo-Saxon, centralized branch, which is now striking skillfully upon every harmonious cord

of the universe, and awakening slumbering truths, and producing music in general thrice-fold as dulcet as ever leaped from the quivering strings of the harp of the Grecian Orpheus.

The Anglo-Saxon invented printing, the "greatest boon to man," first plowed the crested deep, first transmitted thought along the telegraphic wire, thus enabling brothers and sisters to converse with each other when separated by an ocean, or five thousand miles of land, first guided the fiery rushing car across the wide expanse of field, and underneath the earth, and through the rugged forest; and will, ere long, by parity of argument, navigate the air and dash through space. Land, lake, river, and ocean will be at *our command*. Long live the bold Britons, meditative Scots, earnest Germans, imaginative Celts, volatile French, and dashing, accomplished, ingenious Americans. Long live these lineal descendants of the red and rapid blood, to do, to dare, and to further the interests of mankind.

Amid the roaring turmoil of public life, the commotion of the elements, the depreciation of currency, the cells of poverty, the interminable acts of God's material and spiritual creation, the Anglo-Saxon will always be found struggling, and although his energies may, for the time being, be crushed, he, like the famed and wondrous Chrysalis, will finally burst the integuments which bind him, and mount high above all other men.

Among the eternal signs of the Anglo-Saxon, or, more

properly speaking, the Caucasian, are white skin with a dash of the rose and lily, or, perhaps, a slightly brown tint. Their hair is usually a soft, silken brown, worn, in many instances, very long, and often inclined to wave. The cranium of the Caucasian is large, face and features small, finely chiseled, and aristocratic. Eyes either blue, gray, or brown, more often blue, anatomic outline oval and straight, frontal lobe expanded, hemispheres of the brain full, lips thin, chin round, mouth small and narrow, and rather aquiline nose, together with general symmetry of body.

The Georgian ladies are said to be the most beautiful and graceful persons in the world; they represent the very highest physical type of the primitive Egyptian or Caucasian race. I have not time for special descriptions. The best artists, poets, inventors, sculptors, orators, authors, mechanics, dramatists, actors, merchants, warriors, historians, naturalists, bankers, and I might with truth say, lovers, etc., were and are of Caucasian origin. The recognition of this should not make any one of my Anglo-Saxon readers "vain-glorious," nor cause them to look with contempt on the other races; rather let this admitted superiority produce a feeling of charity and kindness in the breasts of each for their more unfortunate brothers.

The next variety is the Mongolian, regarded by naturalists as the second family of men. The Mongolian type comprises nearly all the nomadic tribes inhabiting the northern part of Asia, some of whom are the Mongols,

Calmucks, Burats, Mantchos, Coreans, Kamtschatadales, Chinese, Japanese, Samoides, Yukaques, Tungoosees, and other tribes who occupy Bootan, Ava, Thibet, Cambodia, Laos, and Siam, together with the clans of Esquimaux inhabiting that strip of country between Behring's Straits and Greenland.

The Mongolian is not greatly distinguished for intellectual attainments, inventions, and the refinements of life, yet the natives of China are the most egotistical people on the globe. Every Chinaman imagines that his nation is the grand pivotal center around which all other nations whirl. He calls China the Garden Spot, the flowery land, the incomparable Eden of dainty spices, sweet nutmeg, and fragrant clove, while all the rest of the world, to the "miserable little cuss," is a howling wilderness, blasted Sirocco, or a vast, solitary, desolate desert. I doubt very much whether John Pigtail's equal could be found, in self-laudation, outside of the classic city of Boston, the Athens of America, and, by request of some of her modest citizens, the "Capital of Heaven." John Chinaman looks on the European and American people as common heathens. Bright Boston looks on the people of the West in much the same light. I met quite a number of Chinamen while on the frontiers last spring.

The external marks of the Mongolians are olive complexion, black, beady eyes, black hair, straight, strong, and thin, almost complete absence of beard, etc. Their heads are somewhat square instead of round, forehead

low and small, features commingled indescribably together, glabella flat and broad, nose flat and diminutive, cheeks projecting, aperture of the eyelids narrow, chin oblique; in brief, inferior in stature, mind, and morals to the Caucasian.

The Malay variety, supposed by naturalists to be the third family in the scale of mental and physical endowments, although there are individual tribes of them plunged deeply beneath the billows of ignorance, vice, and degradation. These people inhabit Malacca, Sumatra, Java, Borneo, Celebes, and the adjacent Asiatic islands of the Ladrone, Philippine, Mariana, Caroline groups, and other regions near the South Sea, that I am unable to name. The dominant peculiarities of the Malayan are brown, copper, or tawny complexion, considerably deeper than that of the Spaniards and Portuguese, hair black, but instead of being straight, like that of the Mongolian, it is decidedly curly. The head is narrow, bones of the face prominent, nose full and broad near the apex, and mouth large.

Baron von Humboldt remarks that the "general characteristics of this race are more imperfectly understood than any of the other four." Many fabulous reports have been circulated about it. I do not know of any author who has given a satisfactory pen-picture of the Malayan people; not even Humboldt himself, nor any of our recent writers.

Fourth, the Indian variety, known by naturalists to be

the aboriginal inhabitants of America. This branch of the human family were found many years ago, extensively distributed over the continent of North and South America, and divided into hundreds of tribes, each speaking a different language. Ah, for the power to know something definite about the origin of this strange race! Naturalists, have, thus far, lamentably failed, and the Bible throws but little light upon the problem. Unfortunately for this race, the signs of the times portend complete extermination. Civilization, not content with robbing the red man, proposes to sweep him from the face of the earth. It is absolutely shocking to learn, from the lips of those who know, to what extent agents of our Government have swindled individuals and tribes of this race. From my own personal observation, while on the frontiers, and from the statements made by creditable witnesses, I feel no reluctance in declaring that the majority of Government Indian agents and wild land speculators have been, and are, a set of infamous scoundrels; and that five of the Indian difficulties out of seven have been engendered by the maddening aggressions of "low-flung whites" and renegades from justice. Many of the Indian tribes are peaceful and well-disposed; while others are distinguished for great cruelty and tyranny, whether on or off the war-path. They are generally characterized by an erect, haughty, and stately bearing, and partial incompetency for the duties of civilized life. Although I do not believe in the extravagant and high-wrought descrip-

tions of Indian character, as given by Fennimore Cooper and other romancists of his school, less do I believe in those false, mischievous reports of heartless paid writers. If there ever existed a people who has been treated with as much deeply-venomed malice as this race, I have indeed read history in vain.

Among the external signs by which you detect an Indian, are red or clay skin, black hair, high cheek bones, features very distinct and angular, step noiseless and light, eyes of midnight blackness, lashes long, and in some of the young girls drooping and very enchanting. In the uncivilized tribes destructiveness, firmness, combativeness, and secretiveness are the leading ingredients in their mental composition. Locality, also, is a marked feature, it being impossible to lose one of them, either on the "wide extended plain," or among the trackless windings of the primeval forest. The principal civilized tribes now are the Wyandots, Cherokees, Delawares, Seminoles, Creeks, Mohawks, Shawnees, etc. Among the partly-educated, the Osages, Pottawatomies, and Winnebagoes. Among the untamed and reckless riders of the plains, the Comanches, Arapahoes, Sioux, Cheyennes, etc. Among the wretched, irredeemable tribes, we have the Diggers and Tonkaways, who would not be driven from the fortress of their horrible superstition and unapproachable indolence, even if acted upon by the melodies of Arcadia and Olympus, coupled with the magna-parens of learning, taste, eloquence, and Ionian polish and Doric severity.

Although we find a few remnants of Indian tribes in the Middle and Eastern States, the majority are to be found in Kansas, Nebraska, Colorado, Montana, Nevada, Oregon, Texas, California, Dakotah, and the "Indian Reserves" in general. I have, during the last five years, visited quite a number of tribes, and found them somewhat different, in more ways than one, than from what my readings had led me to expect. Individual Indians differ as much as individual whites, and this fact is right in the face of many would-be ethnological statements. As a race they are much more cunning than the whites, and rather more suspicious, yet less acquisitive by nature, and less double-edged of tongue.

So much has been written about the Indians, and so many conflicting versions given as to their respective characters, that I refrain from entering into an analysis; and I doubt whether I could do justice to the subject were I to attempt it. The element of mirthfulness is very meagerly and inefficiently developed in this race. While I was lecturing in Topeka, Kansas, a horse-back and comical show was given by some nomadic, itinerant circus-men, one day, which was largely attended by the Indians of several nations. They came in on their little ponies, from distances ranging from forty to one hundred miles, and with them was quite a sprinkling of New Mexicans. I was particularly struck with the remarkable difference existing between the Indians and Mexicans. When the clown was exhibiting his outlandish dress and

spinning his stale jests, and jibes, and rattling wit, the Indians remained perfectly stoical and indifferent, while the Mexicans were convulsed with laughter. The circus tent was filled with a very mongrel crowd, murderers, desperadoes, thieves, land speculators, gamblers, negroes, greasers, movers, a Mormon or two, lawyers, doctors, adventurers, rag-tags, "red-legs," jay-hawkers, sharp, fast, and knowing men, and all seemed to like the funny part better than his lordship the Indian. But as soon as the dashing male and female bare-back riders entered the arena with their gay blood-red, deep blue, and rich yellow colors and streamers, then the spirit of the scene changed, the countenance of the Indians grew illumined, and each and all of them seemed plunged in a torrent of delight. Very few mirthful fancies seem to glide unbridled through an Indian's brain, yet they belong to the "human race divine," to our order, and form another link in the triumphal chain which leads unweariedly to the resplendent tiara of immortality.

Fifth, the Ethiopian or African variety. This race inhabits the tropical country. The striking peculiarities of the physical structure of these people, have led Voltaire, Chappell, and others, to infer that they are of a distinct species, and that the human race is a plurality rather than unity. The limits of this book will not admit of me examining the various views on this subject, or entering on a discussion, however short. Among the external signs are black cuticle, black hair and eyes,

with an immense show of the white of the eyes. The national brain or skull is compressed latterly, and elongated toward the front. The forehead, as a general rule, low, narrow, and slanting. The cheek bones are angular and prominent; jaws narrow and projecting; upper front teeth oblique; chin receding; nose broad, thick, flat; nostrils wide; lips heavy and thick; knees turned in; heels turned out; feet, hands and mouth, very large. This variety comprises many tribes (only a few of the names I remember), such as the Kaffers, Jaloffs, Mandingoes, Foulahs, etc. Several of the tribes of Ethiopia resemble the monkey in physical conformation, the main features of resemblance being a relatively larger face than head, the protuberance of the teeth and alveoli, the recession of the chin, the shape of the ossa-nasi, the position of the foramen magnum, the outline of the connection of brain and trunk, the length of the ulna and humerus bones, etc.; yet, there are other qualities and conditions which lead to an opposite conclusion. Whether animals or men, they should be handled with a view of bringing to light whatever of intellectual resources they may possess. Because one man or one race is low in the scale of human development, it forms no argument in favor of their everlasting debasement, and he who will maliciously heap reproach, cast contempt, browbeat, or bodily maltreat an unfortunately organized man of any race, however obscure or vicious, should take a few lessons from the dogs of the streets.

The Ethiopians are, without doubt, much inferior to any of the other four races, and possess fewer attributes of personal beauty and intelligence; though I, as an ethnologist, feel no backwardness in stating, that wherever you find brain and nervous system, be it coarse or silken, there you can also find, after a proper amount of culture, a sufficiency of intelligence for the ordinary pursuits of life. As an honest student of natural history, I must confess, however, that in all countries, except Africa, monuments and relics of antecedent grandeur and genius have been found, but nowhere within its dismal boundaries have any footprints or inscriptions, on granite, stone, marble, in field or mountain, plain or river, been discovered, by which travelers could judge, as to her former greatness. The land of America, and the land of Europe, both give proof of a former era; of the rise and fall of temples, palaces, principalities, cities and institutions. The Aztecs of "old Mexico," have, also, left evidences of their former culture, power, and magnificence. But Africa is to-day the same sluggish and stupendous inclosure of the slimy, hissing serpent, the deadly lizard and scorpion dire, that she was six thousand years ago. Sad, very sad, that something does not speak of her once glowing youth and pristine splendor. Reader, do your part by man, and God will do his part by and for you.

The dominant, mental traits of this variety are the faculties of adhesiveness, tune, time, eventuality, venera-

tion and spirituality, and this is the combination which gives them such a rage for social converse and religious excitement when civilized.

Until ethnology is practically taught in our colleges and common schools, politics and stump-speaking will be at a great discount among literary and scientific men, and we may expect to see the world brimful of superstition and prejudice. As America represents all the world's mental, moral, and physical characteristics, she will be the theater in which the grand and final drama of life will be played. The inhabitants of all nations will here find a resting-place, and receive due compensation for their skill, appreciation for their energy, and a "big" premium on honesty—a quality at present rather scarce.

CHAPTER VIII.

AUSCULTATION

CHEST FORMATION—CHEST DEVELOPMENT.

THE importance of percussion and physical exploration of the chest, with the stethoscope, pleximeter, or respirometer, is beyond question. Yet few persons submit to an examination prior to the actual appearance of some thoracic disease, and are thus, by this reprehensible neglect, placed within the range of "fatal consumption" long before they dream of it. Not a doubt but that the major portion of incipient cases of pulmonary and bronchial affections could be entirely relieved if the exact location and character of them were known. Scientific auscultation is the method by which this information can be gained. I am fully aware that this "art" has been shamefully abused by heartless quacks and bold pretenders, and, in consequence, is looked upon with distrust by the people; but this should not keep persons from testing the skill of "practical chest examiners," who do not live by medical fees, but by discovering your complaint, and giving advice. Quacks infest every department of medicine, and will continue to do so

until physiological knowledge forms a part of the education of every individual. Ignorance of functional and organic law, and of the human system generally pays a heavy premium on quacks and quackery. Diseases of the bronchial tubes and lungs are, as a rule, exceedingly insidious, creeping along with slow, measured, yet, nevertheless certain tread, if not arrested in the outset. Now, the object of "chest exploration" is to arrest them, to ascertain, if possible, the condition of the lungs, tubes, and enveloping membranes, together with the location, age, nature, and cause of chest disease, whether acute or chronic, simple or complicated. I have practiced this art in connection with giving readings of character, talents, etc., for several years, and, am happy to state, with very satisfactory results. Physicians too often are found completely ignorant of this art, and hence it is that a patient will now and then receive wrong treatment; a remedy being given, for example, for nervous prostration, when the disease may be "deficient respiration." When I make an inspection of a man's chest I give him, free of charge, all necessary hygienic, calisthenic, and gymnastic rules by which the chest can be fully restored to its normal state. The practical bearing of this art, then, is to teach the best method of exercising the chest, and the within contained, thus warding off constitutional tendencies to consumption, and alleviating the sufferings of persons who may be laboring under thoracic disease. Certainly a very commendable enterprise.

The world owes to Laennec its admiration for discovering the latent principles underlying this beautiful and humane art, and should thank M. Barthe, Walsh, Skoda, Holmes, and Flint for developing them into a scientific system, and carving out five standard works which will live in medical literature long after the productions of Wood, Dunglison, Watson, etc., are forgotten. The illustrious followers of Laennec have indeed paved the way to a royal road of scientific light.

Before going any further let us glance at the "anatomy of the chest," as presented by Dr. Austin Flint, of New York, special teacher of auscultation, and from whom I have mainly gained my knowledge of the subject. He is a man of unusual brilliancy and scientific culture, and seems to be at home in almost any branch of medical literature:

"The chest comprises the thoracic parities, inclusive of the diaphragm; the pulmonary organs contained within the cavity; the canal, or tube, leading from the lungs to the pharynx, which consists of the bronchi and their subdivisions; the trachea and larynx, and I might add the mouth, throat and nasal passages, as they are involved in the respiratory act, although executing other functions. That part of the skeleton called the thorax is composed of the dorsal-vertebra, the ribs, bones, etc., of the sternum, forming by their union with intervening cartilages, a truncated cone, designed to protect the organs of the chest, and be subservient to certain move-

ments concerned in respiration. The bony arches, or ribs, are joined either to the breast-bone, or to each other, by cartilages, to which the walls of the chest are in a great measure indebted for their elasticity and mobility. The superior seven ribs joined to the breast-bone are the true ribs, and the remaining five are the false ribs. The two lowest ones, from the fact that they are disconnected from those above, are called the floating ribs. The elasticity of these costal cartilages is greatest in early life, and least in old age—sometimes lost in consequence of ossification. The direction of the top ribs is nearly horizontal, while the remainder have an oblique direction. The margins of the ribs are not in contact, but separated, leaving what are termed the intercostal spaces. The intercostal spaces are broader in front than in the rear, and, under different morbid conditions, are diminished in width, and sometimes increased by the accumulation of a large quantity of liquid on the chest.

“In the female skeleton the upper ribs are more widely separated than in the male, and they possess, also, a greater degree of mobility. This anatomical difference in the two sexes has relation to the greater part which the summit of a woman’s chest takes in the respiratory movements. The intercostal spaces are filled with muscular substance, which seems to be the most active agent employed in carrying on respiration. The scapula and clavicle, together with the soft parts, give to the throat shape. The partition wall, separating the chest from the

abdomen, is the tendine-muscular septum. The diaphragm springs from the lumbar vertebra, which is attached to the six inferior ribs. It forms a vaulted roof of the abdominal cavity, its upper surface having a corresponding convexity extending into the thoracic cavity on each side. The height to which this convexity rises is not equal, being greater on the right side than left. In the right side it rises as high as the fourth intercostal space, in the left to the level of the fifth rib. Thus the right side has a vertical diameter somewhat less than that of the left. Accumulation of liquid in the plural sac, and dilatation of the lungs, in cases of emphysema, may cause mechanical depression of the diaphragmatic arch; and, on the other hand, enlargement of the liver on the right side, and enlargement of the spleen on the left, together with distention of the stomach, will produce an elevation of the chest beyond the normal height. The contractions of the muscles of the diaphragm diminishes its vaulted form, thereby enlarging the diameter of the thoracic space. In this way it becomes the most important agent in the act of respiration. The parities are nearly level in persons of good health, and very irregular in those of consumptive tendencies, often approaching deformity. The right chest usually measures more than the left.

“A complete respiration comprises two acts; first, inspiration; second, expiration. In health, after adult age, the respirations are repeated from fourteen to twenty times per minute. The frequency is greater in females

than in males, and still greater in children. In bronchitis respiration is greatly increased, rising as high as thirty, forty, fifty, sixty, and even higher in number, per minute. On the other hand, an unnatural diminution goes with certain diseased conditions of the nervous system. Thus, in apoplexy and partial coma, the respirations are slow. The immediate object of respiration is to enlarge the thoracic spaces. The air fills the vacuum created within the cells, tube, and lungs. This fullness is effected by means of muscles attached to the thoracic walls and by the depression of the diaphragm. The object of expiration is to restore the chest to the dimensions it assumes when not acted upon by the dilating muscles. The diaphragmatic movements are indicated by the rising and falling of the abdomen. But in certain diseases, such as peritonitis, they are almost arrested. Under the pressure of this disease the thoracic muscles take on supplementary activity, and the mode of breathing is then purely costal. The chest is divided into three regions, named anterior, posterior, and lateral."

The modes of examining the chest are six, as follows: Striking the chest with the finger, called percussion; examining the chest with the eye to proportion or disproportion; applying the hand to the chest to ascertain its condition; listening with the stethoscope, applied over the different regions of the chest, for the purpose of discovering morbid sounds; measuring the chest, and shaking the chest. In making an inspection, I do not rely on any

one of these methods to the exclusion of the rest. To take up all the sounds, rales, and murmurs emanating from the chest, lungs, and appendages, it is necessary to examine with the instrument the post clavicular region, the clavicular, the infra-clavicular, scapular, and infra-scapular regions. Then in order to draw an accurate deduction, discriminate closely between the different sounds, as each has a special meaning. When I first began the practice of auscultation, I would often arrive at a wrong conclusion by mistaking these sounds. For example, confounding a sibilant rale with a crepitant one, or taking a dry, vibrating rale for a moist, mucous, or bubbling one; a pulmonary crumpling for a bronchical rale; a sub-crepitant rale for something else, and so on. I have reached that point now, however, by which I am enabled to tell a great deal about the condition of those wonderfully delicate and beautiful organs contained within the thoracic cavity, and thus save many children from an early grave.

Exaggerated vesicular resonance can be readily detected from diminished resonance and dullness, so trachial from cavernous respiration, shortened from prolonged, indurated from adventitious. After a person has had sufficient practice in the art, each of the sounds mentioned speaks language of intelligence to the operator. To be a good explorer of the chest, a man should understand the science of acoustics, which treats of the laws of sound.

If your chest is small and weak, exercise it, and breathe chiefly through your nostrils.

CHAPTER IX.

PHRENOLOGY.

WHEN phrenology was first introduced, it clashed with the popular theories of the day, and was derided by some and hated by others. Many of its most malignant opponents were men who had, up to its presentation, been worshiped as paragons of metaphysical wisdom, and as the introduction of this new system of mental philosophy threatened to dash these great ones down, and send to oblivion their cherished opinions, they rose in a solid phalanx against it. Men of religious aspirations would not at first take hold of it, from the fact that it was unfortunately embraced by certain atheistical writers, who would often use its facts to patch up some darkly-conceived argument in favor of their gloom-impressing notions. Pantheism, deism, and atheism, each essayed to find solace in its seemingly material realms, but as its infantile tendency to infidelity was of short duration, all attempts were finally abandoned.

Scholars of established reputation did not like to meddle with it, on account of the company in which it was frequently found, nor could we reasonably expect that

they would immediately renounce the opinions which had been sedulously and thoroughly engrafted from early childhood to the meridian of life. Such expectations would be unnatural—contrary to experience and right in the face of history. For, bear in mind that Galileo had scarcely uttered the now undoubted truth that the sun was fixed in the center of the world, without local motion of its own, until a perfect storm-shower of burning anathemas were rained upon him. He was lashed with every conceivable epithet which the perverted and maddened dispositions of the knights of the Inquisition could devise; branded as heretical and absurd, false to his race, and false to his God. And why? Because of that baneful ingredient, that inherent property in human nature, entitled *envy*! Again, the gifted Harvey, when he first made known his discovery of the circulation of the blood, was greeted with a din of senseless jeers—treated altogether with abject contempt. Reproach after reproach was heaped upon him to such a degree that, in consequence, he became poverty-stricken, and, for the time being, disgraced. Gradually, however, he arose from envy's sickening folds and slander's poisonous breath, and demonstrated the truth and importance of his position.

Now, while the names of his persecutors sleep with their bodies within the shades of a non-awakening forgetfulness, the name of the ever-to-be-remembered Harvey shines on the medical profession in all the radiance of an autumnal sun.

The famed Pythagoras had no sooner penned his accurate, though novel, opinions to the Athenians, when envy, the most bitter, and misrepresentations, the most vile, were arrayed against him. He is beyond the reach of my humble panegyric, for he taught principles and facts over two thousand years before the days of Kepler, which formed the foundation to the noble superstructure of Newton and La Place. *Yet in spite of all his merits he was rudely driven from the city of Athens.*

The immortal Socrates had no sooner demonstrated the unity of God, when he was forced to drink the juice of a deadly plant. To behold him, as described in history, the very pillow of ancient genius, bowed down in unavoidable submission to the harsh mandates of a prejudiced and ignorant rabble, is indeed adequate to call up the better emotions of our imperfect natures.

The studious Democritus was imprisoned by an unthinking herd of Abderites for having attempted to discover the cause of insanity by dissection. Now, however, the liberal and scientific look on this method as the only rational and practical one. And why? Simply because the deepest and most piercing shriek that ever sped hot and harrowing from the parched lips of a raving madman, can not be primarily traced to mind but to organization. Cure the instrument of the mind, the brain, and abnormal action will at once cease. What is the proof? The condition of the brain of a maniac after death. Where recorded? In the books of insane asylums through-

out the land. What are the facts? Nervous imperfection of the volutes and chambers of the brain, as indicated by the irregular distribution and clotted state of the parts.

Fulton, the man to whom the world yields the credit of being the first and most active in the application of steam to the propelling of vessels, was ridiculed by the people and public press of America and England, and permitted to end his days in indigence.

Columbus for years knocked at the door of wealth and learning in vain for assistance to discover our beautiful land. Nations and individuals treated him as a fool, and most of the abuse heaped upon him, *en passant*, came from the Cortes, the most enlightened body of men that Spain, or any other country, could, at that time, produce. Spain was then the most civilized portion of the globe.

The history of Christ, the celestial Mediator, proclaims that, owing to the very institutions of man, he is by nature opposed to innovations of all kinds, whether relating to art, science, literature, or religion.

Unhappily for the advancement of the human race, the masses think so little for themselves, that they are incessantly subjected to self-appointed dictators, who do them an irreparable injury by appealing to their passions and prejudices. Some writer remarks "that if the majority of men had been born in Turkey, they would have been Mohammedans; if in Hindostan, Pagans." Established or unestablished, men usually like to sail with the high tide and popular breeze, especially when the bark

of prejudice is guided o'er the breakers by forcible, unprincipled dogmatists, bigots, and great domineering scoundrels and tyrannical sap-heads, who happen at the time to occupy leading positions. This same miserable spirit of opposition to new ideas made its dash at every good man who represented a progressive idea in every age of the world. It has attempted to thrust every new invention or discovery into darkness, *i. e.*, printing, telegraphing, land railways, street railways, new agricultural processes, hot-houses, ice-houses, spring gardens, nitrous oxide gas, book-binding, sewing machines, sepia, aconite, belladonna, etc. Hypocrates, Aristotle, Galen, Esculapius, Abercrombie, Shakspeare, Bacon, Hunter, Campbell, Channing, and countless others have each in their days uttered new truths, thrown forward new ideas, which, sad to say, were trampled upon by the multitude, and caused to remain, temporarily, unhonored.

One among the most unpleasant features connected with lecturing on phrenology, is that the majority of listeners misunderstand, in a great measure, its bearings and import. They suppose it a mere "system of bumps," when it is well known to the studious that the term "bump" can not be found in the phrenological vocabulary. Phrenologists judge character by space, texture, quality, etc. Phrenology, properly defined, means "mind and discourse," or "science of brain," instead of what is vulgarly called bumps. It is astonishing to hear even the intelligent on other subjects confounding this beauti-

ful, profound, and lofty science with astrology. I have often given young ladies phrenological examinations, who were very much disappointed because I did not launch out in the astrologic field (humbug), and tell them who, when, and where they were going to marry; whether he was rich or poor, handsome or homely, etc. Others have exhibited the occipital prominence or mastoid process, and wanted to know what "*that ar' bump meant*," etc. Now, a little common sense, observation, and study would be very advantageous to this class of people. Solly, in his recent profound work on the "Anatomy of the Brain," indorses phrenology, and speaks in very complimentary terms of phrenologic practitioners.

We have another class of men who, having unfavorable heads, denounce phrenology without limit. They pretend to their acquaintances that it is an occult something without a shadow of foundation. For the purpose of lowering it in the estimation of others, they erect a baseless fabric which they call phrenology, a contemptible phantom of their own meager designing, and then dash in, tear it to pieces, and then, complacently, take great credit for their facility in overthrowing it. A vast number of tenth-rate, quarter-educated, one-horse doctors take immense pleasure in this method of attack. Remember, young man, that it is not every M. D., who has paid his fee and purchased his diploma, that is competent to judge of the merits or demerits of phrenology. It requires something more than a smattering of anat-

omy, physiology, materia medica, and pill-making to give in a correct decision. I have had "practicing doctors," while looking over my private anatomical cabinet, to confound the organs of the body fearfully, not knowing the difference between the sublingual glands and parotids, etc. What is the opinion of such men worth in relation to this science? I have never met, however, an intelligent physician (I make a distinction between doctor and physician) but what believed in phrenology.

CHAPTER X.

HUMAN TEMPERAMENTS.

ADD to bone, cartilage, ligament, muscle, and tendon, and to these arteries, veins, and blood, and to these nerve, and to nerve brain, and to brain *mind*, and then you have the compound being called *man*. Regarded simply as an animal, he presents a higher order of structure, a higher order of physical functions, and a more recondite finish than any other of God's creation. But he is not only an epitome of animal life, a ware-room of animal organs, but also a being of wondrous organs of special sense and intellectual power. No man can doubt this while gazing on a ponderous suspension bridge, a finished watch, a landscape painting, a rushing, panting steam engine, an ocean craft, a telegraphic wire, a vast city with its immense buildings, rounded with elegance externally and finished with rich tapestry internally, a great temple or baronial castle ten thousand times heavier than the workmen who reared it, or while reading a book of genius, or listening to an orator, or inspecting a statue, etc. In the study of the animal let us not forget the immortal, and in the

study of the latter let us not forget the first. To animal life belong vital, chemical, and what are termed organic changes; to immortal life, reason, ideality, and moral sentiments. The first includes animate material structures and forms; the second includes the dynamics or forces which underlie organization and originate expression, shape, and motion. When the mind acts we have this motion, and thought, passion, volition is the result. When heat is applied to water we have this motion, and the result is steam. When a hot and cold cloud meet we have this motion, and hail is the result. When electricity acts and produces a vacuum we have this motion, and the result is thunder. In short, motion is the undying principle of the universe, and *mind* is its master, king, and creator, and is equally immortal. The contemplation of the animal part gives rise to organic chemistry, anatomy, physiology, etc.; the same of the immortal part develops systems of moral philosophy, polemical theology, and religions of various kinds. Constant attention to the animal man, to the neglect of the immortal, will render a student an atheist; reverse the case and it will render him a theorist, and, may be, an unprolific visionist. The history and biography of Hume proves the one, that of Bishop Berkeley the other. Fragmentary views of life, man, destiny, society, nature, produces fragmentary or partially developed men. Comprehensive views of the same—the earth, the within contained—produces comprehensive men.

In our grasp for the mere details and facts of life, we

are apt to lose sight of the grand outlines, and in our grasp for bold and prominent principles, we lose sight of less imposing features, thus being robbed of much equally true and beautiful. The following is the method that should be pursued in our studies :

1. Nature—the fact.
 2. Science—the knowledge of the fact.
 3. Art—the application of this knowledge.
- Which resolves itself into material, power, skill.

Hence, *art* is the highest expression of the truths of nature, as they are passed through the human brain. I am indebted to my friend Judge Carter, of this city, for this idea—whether it is original or acquired, I do not know—yet I never look at his face and head without being forcibly reminded of the bust of Lord Bacon, the illustrious author of the “*Novum Organum*.” But to the temperaments. To thoroughly analyze and classify them would require more space than I have license to take. I will simply sum up, in brief, the facts in the case as at present developed. Temperament, according to the definitions of Robely, Dunglison, and Magendie, means constitutional peculiarities of body. The definitions of Esculapius, Hypocrates, and Galen, were somewhat of the same character.

The ancients recognized four temperaments, which were supposed to have their origin in the different humors of the blood, lymph, and bile, and modified the body by their action. They were named sanguine, lymphatic, choleric,

and artribilious. The idea of the humors being the seat and cause of the temperaments was banished by the researches and experiments of Drelincourt, Vimont, and others. These latter gentlemen demonstrated that the humors, instead of being the cause, were but the effect of temperamental conditions. Vimont, with some propriety, describes four temperaments, namely, nervous, bilious, sanguine, and lymphatic—the first being elaborated by the action of the nervous system, the second by the action of the venous and biliary fluids, and the third by the action of the arterial circulation and absorbent vessels, and the fourth by the action of secreting glands. The external signs of the first—large brain, small bones, silken hair, and thin visage; of the second, angular brain, black hair and skin, firmness of flesh, and tough, angular features; of the third, florid or red complexion, hair, beard, etc., and light gray or blue eyes; of the fourth, great softness of the muscles, round form of body, repletion of the cellular tissues, fair hair, pale face, and languid action of the vital organs. S. B. Wells, Alexander Walker, and O. S. Fowler have adopted another style of nomenclature. They say man is composed of three classes of organs, which give rise to only three different temperaments—first, the “motive,” made up of the bones, muscles, ligaments, etc., of the skeleton, which give bodily motion, and constitute the frame-work of man; second, the “vital,” or nourishing apparatus, embracing the heart, lungs, liver, and all those organs contained within the trunk which create vi-

tality and sustain animal life, and resupply those energies expended by the brain, muscles, and nerves; third, "mental," embracing the nervous system and brain, the exercise of which produces thought, feeling, mind.

Dr. Byrd Powell, of Covington, Ky., wrote a remarkable book some few years since on this subject, and I think his theory of temperaments is now being generally recognized by the medical profession. He was, during his lifetime, regarded as a singular genius, and a profound, though at times erratic, writer. Posterity will probably give him the credit he deserves.

A philosopher of France resolves the different temperaments into two. The first he calls "positive;" the second, "negative." External signs of the first, great size, weight, and depth of the base of the brain and cerebellum; of the second, great deficiency in those regions.

Professor J. B. Campbell says: There are two temperaments, the positive and the negative, with their varieties.

The Sanguine and the Bilious, or light and dark complexions, in all their shades and varieties, constitute the Positive Temperament.

The Encephalic or *Nervous*, and the Lymphatic or *Watery* conditions, in all their varieties, constitute the Negative Temperament.

The Positive Temperament is *vital*.

The Negative Temperament is *non-vital*.

Indices of the Human Temperaments.—In the Positive Temperament, the shape of the forehead is broad across the eyes, contracts and recedes as it rises; the head is of medium size, rather flat at continuity (particularly if of the light shade), and large behind the ears. The hair, eyes, and complexion may be of any shade, from light to dark, as the sanguine or bilious form of this temperament predominates and *determines*. The habit of the body is *barely* full, but very vigorous. In the sanguine, or light shade, the arterial system predominates, giving quick circulation and red cheeks. In the bilious or dark shade, the muscular system predominates, giving firm muscles, rough, bony frame, torpid liver, and brown or sallow skin.

In northern latitudes the sanguine form of this temperament predominates, and in southern latitudes the bilious form.

The Positive Temperament is essential to life, and gives health and vigor.

Indices of the Negative Temperament.—The Encephalic type or form of the Negative Temperament is represented by a high and projecting forehead, *wider* above than it is across the eyes, and small behind the ears; hair fine and soft; body weak and slim; voice fine; health poor.

The lymphatic type of the Negative Temperament is represented by a large round head, large body, soft, smooth flesh, and cool, moist skin—rather indolent.

The color of the hair, eyes, or skin is not controlled by the Negative Temperament.

Negative persons can be made more *positive*, and thus more healthy by electric treatment.

When a more positive condition is needed in either of the parties to increase their compatability, their happiness, and their health, and to insure healthy offspring, electricity will supply it.

The Sanguine form of the Positive Temperament *gives* inflammatory and scrofulous diseases.

The Bilious form of the Positive Temperament *gives* torpid liver, fever, and consumption.

The Encephalic form of the Negative Temperament *gives* brain, nerve, and mental diseases.

The Lymphatic form of the Negative Temperament *gives* dropsical and glandular diseases.

A person who is all positive, or *nearly so*, should select a partner that is *half*, or a little more than half negative, then they will be happy, and their children healthy.

A person who is *mostly* negative, should select a partner that is *all* positive, then *all* will be *well*.

In the Sanguine Positive, the hand is warm and dry.

In the Bilious Positive, the hand is hard and rough.

In the Encephalic Negative, the hand is smooth, slim, and weak.

In the Lymphatic Negative, the hand is cold, moist and plump.

In the Sanguine Positive, the pulse is quick and strong.

In the Bilious Positive, the pulse is slow and full.

In the Encephalic Negative, the pulse is weak and tremulous.

In the Lymphatic Negative, the pulse is slow and easy.

A marriage with a person of the same Temperament as yourself; no children would result.

If both parties are *all* of the Positive Temperament, there could be no offspring.

If both parties are *principally* of the Negative temperament, their children will be dead-born.

If the parties differ but *little* in temperament, then their children will be *few*, sickly, and short-lived.

If the Sanguine Positive is *overpowered* by the Encephalic Negative in *both* parents, their children will die in infancy with dropsy of the brain, or scrofulous inflammation of its membranes.

If the Bilious Positive is overcome by the Encephalic Negative in *both* parents, their children will be rickety, idiotic, and imbecile, or die in infancy with brain fever.

If the Sanguine Positive is overcome by the Lymphatic Negative in *both* parents, their children will die young of some scrofulous forms of disease. (*N. B.—This is the condition that produces scrofula.*)

If the Bilious Positive is overcome by the Lymphatic Negative in *both* parents, their children will die young with consumption of the brain, lungs, or abdominal glands. (*N. B.—This is the condition that produces con-*

sumption, that scourge of our race.) Incompatibility of parents is the main cause of weakly, sickly, and dying children, and is the first cause of most of the sickness of matured life.

And these causes are increasing to an alarming extent, overwhelming our land in sickness, gloom, and death.

Every person should make it the great aim of life to select a proper conjugal mate. Then they themselves would be happy and their children healthy and long-lived. And this can be done by a knowledge of this science.

Professors O'Leary and Sims recognize, in addition to the temperaments mentioned, the Emotional and Passional Temperaments. Prof. Capon, of Philadelphia, (and I agree with him), thinks they are abnormal conditions, rather than temperaments, arising from want of balance in the organs of the first, and a perversion of the basilar organs in the second. To sum up: the naming of temperaments amounts to but little, as the subject at last resolves itself into quantity, condition and texture. Hence, we have Fine, Course, and Moderate Temperaments, each of which is susceptible to almost countless subdivisions and various modifications. Some temperaments can be compared to silk, others to linsey; some to cotton, others to linen; some to beech-wood, others to ash; in fine, we have silken temperaments, glazed muslin temperaments, etc., and so on without limit. But for a full view of the anthropological system of temperaments, see my

forthcoming work; in it you will discover a fine distinction drawn between what are termed the nervous and mental temperaments. These two have always been regarded as one, but I will prove that the nervous is not the mental, and *vice versa*; and that the mental is specific, and emanates from the frontal lobes; and that the nervous is specific and emanates from the occipital and inferior spinal regions.

CHAPTER XI.

ON PHYSIOGNOMY:

GENERAL, SPECIAL, AND COMPARATIVE.

PHRENOLOGICAL delineators are often accused of deciphering character altogether from the indices of physiognomy. All I have in answer to this is, that in view of the usual accuracy of these delineations, physiognomy is paid a markedly high compliment. Scientifically or anthropologically speaking, however, physiognomy is a reflex or part of phrenology. The brain being the seat of thought, and phrenology the science of the brain, of course it would be the legitimate fountain from which all physiognomic science would spring. People who are constantly objecting to phrenology because they think it nothing but physiognomy, are usually ignorant of the first letter or principle in either study. I invite your attention first to—

General Physiognomy—Which means the face of nature, whether animate or inanimate—lake, sea, river, ocean, tree, flower, shrub, house, man, dog, cat, lion, tiger, mountain, valley, etc., or the configuration of any object. Now if, in any study, you can prove that differences exist

between the same order of phenomena and features, you have the basis for building up a science.

Among the distinguished authors who have written on this subject are Cicero, Cæsar, Shakspeare, Baptista Porta, Lavater, Zimmerman, Herder, Montaigne; the anatomist Camper, the ethnologist Blumenbach, the naturalist Cuvier, the phrenologist Spurzheim, the physiologist Sir Charles Bell, the experimentalist Flourens, the physician Mason Goode, together with Roman and Grecian names too numerous to quote. But it has been left to Alexander Walker, of England, De La Sarth, of France, Von-Moulex, of Germany, Predar, of Scotland, Leroy Sunderland, Redfield, and Wells (the latter well known as editor of A. P. J.), to present the grammar rules of physiognomy, although, as observed by Ralph Waldo Emerson, "these rules are as old as the Sanskrit itself, and persons have taken to an extent the physiognomical signs as guides from the days of Confucius down to the present time."

General physiognomy has been universally recognized, from the fact that students of nature, Homer and Virgil among the rest, have written so much about the face of nature in general, and the difference existing between various mountains, oceans, plains, cities, kingdoms, etc.; hence it is that such expressions as the physiognomy of your city, or country, or village, have become very common.

Special Physiognomy is limited to the human face alone,

whether in a state of mobility or repose. A good artist is necessarily a good physiognomist, as his profession compels him to study shades of expression, lineaments, and marks of every variety. I have gained many important facts relative to special physiognomy from portrait painters and sculptors. Special physiognomy, when properly defined, means knowledge of a person's mind as indicated by the organic, nervo, and muscular expressions and developments of the face. Prof. Wells says "it teaches us the relation sustained between the exterior and interior of man; between inward mental and moral conditions and outward manifestations; between the physical system in general and the spiritual principle which animates and controls it; between the presented effects and the hidden cause. It shows what a man is, and what he might become at particular moments." This is special physiognomy as a science, and the deciphering of character by the light thus exhibited, by a professional physiognomist, constitutes the art.

Comparative Physiognomy deals mainly with the relation that man's face holds to animals, and shows up the resemblances which are known to exist between them. It is evident to all that there are men who resemble geese, others eagles, others doves, others mud-suckers, others sharks, others snakes, others lions, others foxes, frogs, cows, horses, mules, dogs, oxen, etc., and, moreover, that those men who resemble a given animal are more or less like the animal in actions and characteristics. Some

young ladies resemble the humming-bird, others the jay-bird, others the butterfly, others the snipe, others the crane, others the duck, etc.

Special physiognomy teaches that the muscular portions of the face are under the control of the will, and that the expression of certain portions undeviatingly indicate the acts of the mental faculties on which they depend. The faculties of the mind have poles or magnets stationed in parts of the face, and when they act the latter gives out those changes of the countenance which speak the unmistakable language of love, hate, joy, revenge, gloom, ambition, fear, recklessness, hope, etc. In analyzing the human face you should always observe the predominance of one muscular sign, or nervo-magnetic sign, over another. Compare closely the chiseling of the lips, the arch of the brow, the sharpness of the chin, etc., with other parts of the face to ascertain how they correspond.

There are some persons in the world stupid enough not to believe in physiognomy. They claim that hypocrites can throw a veil over their own hearts to such a degree as to deceive the most knowing man. Granted that "appearances are often deceitful," that does not alter the case. A man carries his mind on his face, and those who thoroughly understand physiognomy know it. A scoundrel visited a certain churchman in a certain town of Kentucky, and, by assuming the character and physiognomical expression of a religious and an honest man, managed to borrow the churchman's horse to take a little ride for his

health, as he said, and that was the last of churchman's horse. Now, if this good member of the church had understood physiognomy, the stranger could not have won his confidence and stolen his property; but he, like a great many other disbelievers in physiognomy, dolts—yes, self-willed dolts—would rather trust to pretensions or wait patiently for actions.

There is a town in a certain Eastern State where nearly all of the inhabitants seem to be consummate physiognomists, and, from this very fact, it is one among the most delightful places on the continent. Young girls are deluded, deceived, and cast off, young men ruined for life, husbands crucified, merchants bankrupt, owing to lack of physiognomic knowledge. A man should never select a partner in business, or a wife, without physiognomical guidance. There is something more in physiognomy than has yet been revealed. Do you suppose that Newton could have conceived his immortal Theodicea if he had possessed the face of an Esquimaux or Hottentot? Would La Place ever have dissected the rays of light and weighed worlds if he had possessed a face like Heenan or any other prize-fighter? Would Napoleon have shaken Europe to her foundation, if he had possessed the peaceful face, and consequently the peculiar look, of Howard, the philanthropist? Would the gifted though miserable Edgar A. Poe ever have conceived the raven if he had possessed the sanguine face and look of Hackett, the *personator* of our mutual friend Jack Falstaff? Would the

ingenious, dare-devil author of *Don Juan* ever have conceived such a dangerous and libidinous production if he had looked like Pollock or Cowper? Would Charles Dickens ever have produced his numerous humorous works if he had looked like a professional brewer of beer. Enough. We need no further allusion. You can follow out similar ones at leisure. The prize-fighter, the minister, the lawyer, the merchant, etc., if they understand their business, carry their professional marks on their faces. Ten laws govern the physiognomy of man—first, the law of correspondence; second, the law of homogeneity of structure; third, the law of facial, special development; fourth, the law of quantity; fifth, the law of quality; sixth, the law of temperament; seventh, the law of form; eighth, the law of separate functions; ninth, the law of latency; tenth, the law of arrested development, as shadowed forth by Dr. Oliver Wendell Holmes.

Rocks, trees, birds, insects, lambs, bears, monkeys, etc., differ in looks, and thus differ in character—no two orders, no two species, no two genera alike. Even two blades of grass can be distinguished from each other when placed under the microscope. The face of the Sierra Nevada mountains don't resemble the prairies of Kansas or Illinois, nor the highlands of Scotland, the bogs of Ireland, nor a pine-tree a beech, nor an eagle a goose. Each gander differs from every other gander, each duck from every other duck, each Mexican pony from every other pony, each black and white man from every other black

and white man; and from these differences and resemblances the science of physiognomy springs. Look on a ferocious human face, then look on a mild one, and you will be convinced of the truth of physiognomy at once.

Professor Wells says in his work, that Professor Owen, of London, can, from a single bone of an unknown animal, construct its entire osseous frame-work and, if need be, clothe it with muscles, and that Professor Agassiz is able to take the scale of a fish, and give its history, order, genera, etc. Their ability to do this is owing to their wonderful power in comparative anatomy.

From this I claim, that if certain naturalists can take the tooth of a dead animal and describe each bone of the original to the last joint, or take a fossilized portion of a toad, lizard, fish, reptile, or bird, and give you its qualities, conditions, and states, just from familiarity with the subject, other men, who make man their study, can read with equal accuracy the legible inscriptions emblazoned on the human and animal face.

I will now quote several passages from the elaborate production of Professor Wells.

"Nature is never at variance with herself; nor is everlasting order, the skillful trick of a mountebank exhibited but to deceive. We can not associate the cruel and blood-thirsty propensities of the Comanche Indian with the gentle and pious face of the Quaker. As men differ in mind, so do they differ in physiognomy. A dissipated man seldom looks like a sober one, or a sick man

like a healthy one, or a fool like a wise one, nor a thief like an honest one. A trader would never mistake a dray horse for a racer, or purchase a bull-dog with the expectations that he would perform the duties of a greyhound.

“The farmer would never mistake the seed of the lettuce for the seed of the red-pepper, or the sprout of an oak-tree for that of an ash, or confound poplar with hickory, for every-where the indwelling life or sap determines the external quality and configuration, and brands itself on the exterior of things.

“Objects which resemble each other in nature and function, also resemble each other in shape. The delicate and tall stalk which supports the corn of the field could never support the weighty pumpkin of the ground, any more than the nourishing vine of the pumpkin could support the corn. Nor could the graceful weeping-willow, or majestic and spreading elm bear cherries. The Greeks taught physiognomy. Pythagoras and his disciples practiced it. Plato mentions it with approbation in his *Timæo*. Aristotle wrote a treatise on it, which Diogenes criticised with remarkable severity. Socrates gave the subject much of his valuable attention, and was in the habit of holding conferences with Zopyrus, the famed physiognomist.

“Among the Romans physiognomy had its professors, many of whom disgraced it by connecting it with prognostications of future events, much the same as the as-

trologers of our day degrade astronomy. Cicero was an ardent supporter of it, and defined it to be the art of discovering the surface and latent qualities of the mind by the face. Julius Cæsar was a great physiognomist in his age. Shakspeare puts the following words in his mouth when noting the physiognomies of Cassius and Antony;

"Would he were *fatter*: but I fear him not;
 Yet if my name were liable to fear
 I do not know the man I should avoid
 So soon as that spare Cassius. He reads much.
 He is a great observer, and he looks
 Quite through the deeds of men. He loves no plays,
 As thou dost, Antony; he hears no music:
 Seldom he smiles, and smiles in such a sort
 As if he mocked himself and scorned his spirit
 That could be moved to smile at any thing;
 Such men are never at heart's ease
 While they behold a greater than themselves,
 And therefore are very dangerous."

Then again you may remember the expression of a certain Greek senator while answering his political opponent:

"Thou dog in forehead,
 And in heart a deer;
 Thou would'st strike at me,
 But thou dost fear."

I will, much to my regret, owing to lack of space, bring this chapter to a close by inserting a portion of Professor Wells'

PHYSIOGNOMY OF THE NOSE.

Noses have been variously classified. The following arrangement, based on the profile alone, will serve our present purpose, all known noses being included in the five classes named :

1. The Roman noses ;
2. The Greek noses ;
3. The Jewish noses ;
4. The snub noses, and
5. The celestial noses.

Between these, of course, as in all other similar cases, there are infinite crosses and mixtures, but in the side view there are exhibited only the five simple elements indicated in the foregoing classification, be the combinations as numerous as they may.

The Roman Nose—Executiveness.—This is the energetic, the decided, the aggressive nose—the nose of the conqueror. Plato designates it, from its being indicative of power, “the royal nose.” The ancient artists gave this nose to Jupiter, Hercules, Minerva Bellatrix, and other energetic deities. It loves power and dominion ; seeks personal aggrandizement, and pushes onward toward its object with a terrible energy, a stern determination, and an utter disregard of the little courtesies of life. From Julius Cæsar to Lord Wellington, the character of the Roman-nosed arbiters of human destiny has been in these respects the same. For proof of this consult the biographies of Sesostris, Cato the Censor,

Lucretius, Charlemagne, Charles V, of Spain, Canute, Columbus, Americus Vespucius, Cortes, Pizarro, Robert Bruce, Queen Elizabeth, the Earl of Chatham, Hendrick Hudson, Daniel Boone, General Daniel Morgan, Francis Marion, Andrew Jackson, Sam Houston, Thomas H. Benton, Winfield Scott, and Zachary Taylor, and we might mention twenty more, all of whom had either strictly Roman noses, or noses closely approaching that type. These were persons, though not all conquerors on the field of war, whom no hardship could deter, no fear daunt, no affection turn aside from any purpose they had undertaken, that purpose being, in most cases, pursued with a reckless disregard of personal ease and the welfare of others.

Numerous portraits, both in marble and on coins, demonstrate that the nose we are considering was very properly named from the ancient conquerors of the world, among whom it was a peculiarly characteristic feature, and who manifested in a most remarkable degree the traits of character which it indicates.

Noses of the pure Cæsarian type, in its complete development, are comparatively rare at the present day; but those which closely approach it, and which we shall call Roman, since they are of the same general form, are not uncommon among Europeans and Americans. The departure from the classical outline generally consists in a slight downward removal of the most prominent portion of the ridge.

The Greek Nose—Refinement.—Natural refinement, artistic tastes, and great love of the beautiful, whether indicated by it or not, generally accompany this classic nose. It takes its name, as is well known, from the wonderful art-loving Greeks, in whose physiognomy it was a prominent characteristic. It was not, of course, universal among them, but belonged to many of their historical characters, and especially to the women; and their sculptors gave this trait to Juno, Venus, Apollo, and all the rest of the more refined of their deities.

"The owner of the Greek nose," the author of "Notes on Noses" says, "is not without some energy in the pursuit of that which is agreeable to his tastes; but, unlike the owner of the Roman nose, he can not exert himself in *opposition* to his tastes." This remark is strikingly true when applied to the Greeks themselves, as history clearly shows.

Among the distinguished Greek-nosed men of more modern days we may mention Petrarch, Milton, Spenser, Boccaccio, Canova, Raffaele, Claude, Rubens, Murillo, Titian, Addison, Voltaire, Byron, and Shelley. Greek-nosed women have not been entirely wanting in modern days. Among the literary ones, Hannah More, Letitia Barbauld, Felicia Hemans, Mary Tighe, Maria Edgeworth, and Madame de Staël are well known. Of women celebrated for their beauty, from Andromache to Pauline de Borghese, nearly all have had noses either purely Greek or closely approaching that form. Judging

by such portraits of them as have come under our observation, such was the nose of St. Catharine, Vittoria Colonna, Isabella, of Castile, Catharine II, of Russia, Heloise, Petrarch's Laura, Dante's Beatrice, Eleanora d'Este, Beatrice Cenci, and many others who might be named. It is the most beautiful nose in woman, and agrees with her superior natural refinement of character and elegant tastes. "The Greek-nosed woman," one of her admirers says, "whether born in a cottage or a palace, makes every thing about her beautiful. Taste presides alike in the adornment of her person and the furnishing and embellishing her rooms. A wreath of green leaves or a little vase of flowers may as truly show it as a tiara of pearls or the appointment of a luxurious *boudoir*."

The noses of poets and artists, it may be observed, often have the Greek form, or show a tendency toward it. Thus, Virgil, though a Roman, had a Greek nose, like many more modern worshippers of the muse.

Alexander the Great, Constantine, Frederick II, of Prussia, Alfred the Great, Washington, Napoleon, Sir Walter Raleigh, Sir Philip Sydney, Lorenzo de Medici, Richelieu, and Wolsey, had noses compounded of the Roman and the Greek, but approaching more nearly to the former. A combination in which the Greek element predominates is not uncommon, among either men or women of culture and refinement, and forms a very beautiful and desirable nose.

The Jewish Nose—Commercialism.—This form of nose is almost universal among the Israelites, from whom it receives its common name. It is by no means peculiar to the Jewish nation, however, who possess this form of profile in common with all the inhabitants of Syria and the Syrian races every-where; and Sir G. Wilkinson proves that the nations represented in the Egyptian sculpture with the hawk-nose are not always Jews, as was once supposed, but Syrians. The ancient Phenicians were Syrians, and the portraits we have of these people on the Egyptian sculpture, as read by Sir G. Wilkinson, all exhibit this form of nose. The Arabs of the present day—descendants of Abraham through the wild son of Hagar—have features, in many respects, similar to those of the Jews. A large number of portraits of Arabs of all classes and ranks, taken by French artists in Africa, and now before us, show that the form of nose called Jewish is all but universal among them.

The author of "Notes on Noses" calls the Jewish or Syrian nose the Commercial Nose, and says that "it indicates worldly shrewdness, insight into character, and ability to turn that insight to a profitable account." This is a perfectly correct and well-expressed definition, but, as we shall show in another place, the *Commercialism* (Acquisitiveness) is indicated, not by the outline of the ridge, but by the breadth of the nose, which is almost universally great in connection with this form.

The Emperor Vespasian, his son Titus, Theodosius the

Great, Mahomet, Correggio the artist, Adam Smith, Albert Gallatin, Peter Stuyvesant, and other noted men, had the Jewish nose; and many well-developed specimens of it may be seen any fine day on Chatham Street, in our good city of New York.

The Snub Nose—Undevelopment.—The fact that this is the nose of weakness and undevelopment, as we have shown it to be, precludes the possibility of it being, through its own merits, an historical nose. Such a flattened and shortened proboscis can not, in the nature of things, have made any legible mark on the records of the world's progress. Its wearers have never conquered realms and enslaved nations, like the owners of the royal Roman nose, or built magnificent temples and adorned them with works of high art, like the Greek-nosed children of genius.

The Celestial Nose—Inquisitiveness.—Add somewhat to the length of the Snub, and give it a turn upward, and you have the Celestial nose—*le nez retroussé* of the French. It is the exact converse of the Jewish nose, being concave where the latter is convex. The noses of women often have this incurvation, and such noses in the fair sex are not without their ardent admirers. The Celestial may be defined as the inquisitive nose. It serves as a perpetual interrogation point. In little children, the Snub and Celestial noses are beautiful, because congruous with our ideas of the weakness and ductility of childhood. For the same reason, we do not find them without their

charm in woman, whom we are not displeased to have more or less dependent upon us for support and protection. This nose must not be confounded with noses of the other classes, which simply turn up a little at the end. The true Celestial presents a continuous concavity from the root to the tip.

CHAPTER XII.

RULES FOR FINDING THE ORGANS,

AS GIVEN BY PROFESSOR O. S. FOWLER.

PRE-EMINENTLY is phrenology a science of facts. Observation discovered it—observation must perfect it; observation is the grand instrumentality of its propagation.

To be convinced of its truth, nine hundred and ninety-nine men out of every thousand require to *see* it—to be convinced by *induction*, founded upon experiment. Hence the importance of giving definite *rules* for finding its organs, by which even disbelievers may test the science, and believers be confirmed in its truth and advanced in its study.

The best mode of investigating its truth is somewhat as follows: You know a neighbor who has extreme firmness in character—who is as inflexible as the oak and as obstinate as the mule. Now, learn the location of the phrenological organ of firmness and apply that location to his head—that is, see whether he has this organ as conspicuous as you know him to have this faculty in character, and if you find a coincidence between the two, you have arrived at a strong phrenological fact.

You know another neighbor who is exceedingly cautious, timid, safe, wise, and hesitating; who always looks

at the objections and difficulties in the way of a particular measure, instead of at its advantages; who always takes abundant time to consider, and is given to procrastination. Learn the location of cautiousness, and see whether he has this phrenological organ as conspicuous as you know this faculty to exist in his character. By pursuing this course, you can soon arrive at a sure knowledge of the truth or falsity of phrenological science; and, altogether, the best mode of convincing unbelievers of its truth is by means of the marked coincidence between the phrenology and character of those they know—nor is it possible for the human mind to resist proof like this.

To promote this practical knowledge—the application of this science—we give the following rules for finding its organs, fully assured that we can fill our pages with nothing more interesting or useful. Follow these rules exactly, and you will have little difficulty in finding at least all the prominent ones.

Your first observation should be made upon temperament, or organization and physiology, with this principle for your basis: that when bodily texture or form is coarse, or strong, or fine, or soft, or weak, or sprightly, the texture of the brain will correspond with that of the body, and the mental characteristics with that of the brain. But we have already discussed the influence of various temperaments upon the direction of the faculties.

Your second observation should be to ascertain what faculties control the character, or what is the dominant

motive, desire, object, or passion of the person examined—in phrenological language, what faculties predominate in action. And it should here be observed that the relative size of organs does not always determine this point. Some faculties, though very dominant in power, can not, in their very nature, constitute a motive for action, but are simply executive functions, simply carrying into effect the dominant motives. For example, combativeness rarely ever becomes a distinct motive for action. Few men love simply to struggle, quarrel, or fight for fun, but exercise combativeness merely as a means of obtaining the things desired by the other dominant faculties. Few men have for their motive the mere exercise of will. That is, firmness is generally exercised to carry into effect the designs of the other faculties, and, instead of subjecting the other faculties to itself, simply keeps them at their work, whatever it may be. And thus of some other faculties. But amativeness, friendship, alimentiveness, acquisitiveness, benevolence, veneration, conscientiousness, intellect, constructiveness, ideality, or the observing faculties, may each become dominant motives. And it requires much phrenological shrewdness to ascertain what single faculty, cluster, or combination of faculties leads off the character.

Let us take, then, for our starting-point, the outer angle of the eye, and draw a line to the middle of the top of the ears, and destructiveness is exactly under this point, and extends upward about half an inch above the top of the ears. In proportion to its size will the head be wide be-

tween the ears. When secretiveness is small and destructiveness large, there will be a horizontal ridge extending forward and backward, more or less prominent, according to the size of this organ,

Secretiveness is located three-quarters of an inch above the middle of the top of the ears. When this organ is large, it rarely gives a distinct projection, but simply fills and rounds out the head at this point. When the head widens rapidly from the junction of the ears as you rise upward, secretiveness is larger than destructiveness; but when the head becomes narrower as you rise, it is smaller than destructiveness.

To find these two organs and their relative size, place the third finger of each hand upon the head, just at the top of the ears; let the lower side of the third finger be even with the upper part of the ear; that finger then rests upon destructiveness. Then spread the second finger about one-eighth of an inch from the other, and it will rest upon secretiveness. Let the end of your longest finger come as far forward as the fore part of the ears, and they will then rest upon these two organs.

Take, next, this same line, starting from the outer angle of the eye, to the top of the ears, and extend it straight backward an inch and a half to an inch and three-quarters, and you are on combativeness. This organ starts about midway to the back part of the ears, and runs upward and backward toward the crown of the head. To ascertain its relative size, steady the head with one hand,

say the left, and place the balls of your right fingers upon the point just specified, letting your elbow be somewhat below the subject's head, which will bring your fingers directly across the organ. Its size may be ascertained partly from the general fullness of the head and partly from its sharpness, according as the organ is more or less active; yet observers sometimes mistake this organ for the mastoid process directly behind the lower part of the ears. Remember our rule, namely: a line drawn from the outer angle of the eye to the top of the ear, and continued an inch and a half or three-quarters straight back. Follow that rule, and you can not mistake the position of this organ; and will soon, by comparing different heads, be able to arrive at those appearances when large or small.

To find parental love, extend this line straight back to the middle of the back head, and you are on the organ; and in proportion as the head projects backward behind the ears at this point, will this organ be larger or smaller.

About an inch, or a little less, directly below this point, is the organ which controls muscular motion; and in proportion as this is more or less prominent, will the muscular system be more or less active and powerful. Those who have this prominence large will be restless, always moving a hand or foot when sitting, and even when sleeping—will be light-footed, easy-motioned, fond of action, and willing to work, as well as possessed of a first-rate constitution; but when that prominence is weak, they will *be found* proportionally inert.

Inhabitiveness is located three-fourths of an inch above parental love. When inhabitiveness is large and continuity is moderate, there will be found a prominence somewhat resembling an angle of a triangle, at the middle of the head, together with a sharp prominence at this point. But when inhabitiveness is small, there will be a depression just about large enough to receive the end of a finger, with the bow downward.

An inch on each side of this point is friendship. When friendship is large, especially if inhabitiveness and continuity are small, there will be two swells, somewhat resembling the larger end of an egg; but if small, the head will retire at this point.

Continuity is located directly above inhabitiveness and friendship. Its deficiency causes a depression resembling a new moon, with the horns turning downward, surrounding the organs of inhabitiveness and friendship. When continuity is large, however, there will be no swell, but simply a filling out of the head at this point.

Amativeness may be found thus: Take the middle of the back part of the ears as your starting point; draw a line backward an inch and a half, and you are upon this organ. Yet the outer portion next to the ear exercises the more gross and animal function of this faculty, while the inner portion takes on a more spiritual tone.

To find cautiousness, take the back or posterior part of the ears as your starting-point. Draw a perpendicular line, when the head is erect, from the extreme back

part of the ear, straight up the side of the head, and just where the head begins to round off to form the top, cautiousness is located. This organ is generally well developed in the American head, and those prominences, generally seen at this point are caused by a full development of this faculty.

To find alimentiveness, take the upward and forward junction of the ear with the head as your starting-point; draw a line half an inch forward, inclining a little downward, and you are upon this organ. Then rise three-quarters of an inch straight upward, and you are on that part of acquisitiveness which gets property. Yet a better rule for finding it is this; Find secretiveness in accordance with the rule already given, and acquisitiveness is an inch forward of the point, and about an inch above the middle of the tip of the ear. Or thus: Take the middle of the top of the ear as your starting-point; draw a perpendicular line an inch upward, and you are on secretiveness; then about an inch forward, and you are on acquisitiveness. When the head widens rapidly as you pass from the outer angles of the eyes to the top of the ears, acquisitiveness is large; but when the head is thin in this region, acquisitiveness is small.

Sublimity, ideality, and constructiveness can be found by the following rule: First, find consciousness as already directed; then pass forward an inch, and you are on sublimity; extend this line on another inch, and you are on ideality; then an inch downward brings you upon constructiveness.

It should be remembered that cautiousness, sublimity, and ideality are just upon the round of the head, or between its top and sides. Usually the head is much wider at cautiousness than at sublimity, and at sublimity than ideality. When, however, the head is as wide at ideality as at cautiousness, the subject will possess unusual good taste, purity, refinement, elevation, and personal perfection. Half an inch forward of ideality is the organ which appertains to dress, and secures personal neatness. In those who care but little what they wear, or how they appear, this organ will be found small.

Firmness can best be found by the following rule: Let the subject sit or stand erect, and hold the head in a line with the spinal column. Taking the opening of the ear as your starting-point, draw a line straight upward till you reach the middle line on the top of the head, and you are on the fore part of firmness. When this organ is large, and veneration small, its forward termination resembles, in shape, the fore part of a smoothing-iron, rapidly widening as it runs backward. The organ is usually about an inch and a half long.

Self-esteem is an inch and a half back of firmness. Its upper part gives a lofty, aspiring air, magnanimity, and a determination to do something worthy; while half an inch farther back is that part of self-esteem which gives will, love of liberty, and a determination not to be ruled.

Approbateness is located on the two sides of self-esteem, about an inch outwardly. These two lobes run

backward toward friendship, and upward toward conscientiousness.

The relative size of approbateness and self-esteem may be found thus: Place one hand, say the left, upon the forehead, to steady the head; point the finger from above directly down upon firmness; then move it two inches directly backward, and place the balls of the second and third fingers upon the points just found. When self-esteem is small, these balls will fall into the hollow which indicates its deficiency, while the ends of the fingers will strike upon the swells caused by approbateness, when this organ is large; and the middle of the second joint of these fingers will apprehend the size of that lobe of approbateness which is next to it. Or thus: Stand behind the patient, and so place your fingers upon his head that the second finger shall reach upward to the back part of firmness; then lay the first and second joints of that finger evenly with the head, and place the first and third fingers upon the head along-side of it. When self-esteem is larger than approbateness, the second finger will be pushed up farther than the others; but when the two lobes of approbateness are larger than self-esteem, the second finger will fall into a hollow running up and down, while the first and third fingers will rest upon the two lobes of approbateness. Or thus: In nineteen females out of every twenty, approbateness will be found considerably larger than self-esteem; and by applying this rule to their heads, a hollow will gen-

erally be found at self-esteem, and a swell at approbative-ness, by which you can localize these organs; and a few applications will soon enable you to form correct ideas of their appearance when large and small.

Hope and conscientiousness are found thus: That line already drawn to find firmness passes over the back part of hope, which is on each side of the fore part of firmness, while conscientiousness is just back of that line, on the two sides of the back part of firmness, and joins approbateness behind.

As these two organs run lengthwise from firmness down toward cautiousness, and are near together, it is sometimes difficult to determine which is large, and which small. The upper part of conscientiousness, next to firmness, experiences feelings of obligation to God, or sense of duty to obey His laws; while the lower part creates a feeling of obligation to our fellow-men.

Veneration is on the middle of the top of the head, or about an inch forward of the point already described for finding firmness; while benevolence is about an inch forward of veneration. When, therefore, the middle of the top-head rounds out and rises above firmness and benevolence, veneration is *larger* than either of these organs; but when there is a swell at benevolence, and a depression as you pass backward in the middle of the head, and another rise as you pass still farther back to firmness, veneration is *smaller* than benevolence or firmness. The back of benevolence experiences philanthropy and a

desire to do good and remove evil on a large scale, while the fore part sympathizes and bestows minor gifts in the family and neighborhood. The fore part of veneration gives respect for our fellow-men, while the back part supplicates and depends upon the Deity. The fore part of firmness, working with conscientiousness, gives moral decision; while the latter, acting with self-esteem, gives physical decision, determination to accomplish material objects, and what we commonly call perseverance.

Spirituality is located on each side of veneration. It may be found by the following rules: Standing behind the subject, who should be seated, so place your fingers that the first fingers of each hand shall be about an inch apart; that the ends of your second fingers shall be about three-quarters of an inch forward of a line drawn across the middle of the head from side to side; and the balls of your fingers will be on spirituality. Or, reversing your position, so as to stand in front of the subject, so place your hands that the first fingers of each hand shall be as before, about an inch apart, and the ends of your longest fingers shall just touch the fore part of hope, and the balls of your second and third fingers will rest on spirituality. This organ is generally low, so that it may usually be found by that *depression* which indicates its smallness. When it is large, the head is filled out in this region, instead of sloping rapidly from veneration. Its two lobes are about an inch on each side of veneration, and directly above ideality.

Imitation is upon the two sides of benevolence, directly forward of spirituality. The best rule for finding it is this: Standing in front of the subject, place your hands so that the first fingers of each hand shall be separated about three quarters of an inch, and the end of your longest finger shall reach a line drawn through veneration and spirituality—that is, through the middle of the head from side to side—and the balls of your fingers will be on imitation. It will be found larger in children than adults; so that the ridge usually found in their heads at this point may be taken as the location of this organ. It runs from benevolence downward toward constructiveness. The upper part, toward benevolence, mimics; the lower part, toward constructiveness, makes after a pattern, copies, etc.

We are now brought to the intellectual lobe. Take the root of the nose as your starting-point; the first organ met in passing upward is individuality; it is between the eyebrows, and when large causes them to arch downward at their inner termination, and that part of the head to project forward.

Eventuality is three quarters of an inch upward, and slightly below the center of the forehead, which in children is usually large, and in adults frequently small. From this center of the forehead, comparison extends upward to where the head begins to slope backward to form the top of the head; at which point, or between benevolence and comparison, human nature is located,

which is usually large in the American head, as is also comparison. Agreeableness is located about an inch on each side of the organ of human nature, and is usually small, so that we can ascertain its location by observing its deficiency. When both of these organs are large, the forehead will be wide and full as it rounds backward to form the top-head, or where the hair makes its appearance. Causality is located about an inch on each side of comparison, and mirthfulness about three quarters of an inch still farther outwardly, toward ideality. Form is located internally from individuality, just above and partly between the eyes, so as to set them wider apart, in proportion as it is the larger.

Size is located just in the turn between the nose and eyebrows, or beneath the inner portion of the eyebrows; and when large, causes their inner portions to project outward over the inner portion of the eyes, like the eaves of a house, giving to the eyes a sunken appearance. Size can generally be observed by sight, yet if you would test your sight by touch, proceed as follows: Place the end of your thumb against the bridge of the nose, with the lower part of your hand turned outward, and your thumb lying nearly parallel with the eyebrows, and the ball of your thumb will be upon size. When this organ is large, there will be a fullness in this region, as if half a bean were beneath your thumb.

To find weight and color, proceed as follows: Let the *eyes be directed* straight forward, as if looking at some

object; draw an imaginary line from the middle of the eye to the eyebrow; weight is located internally from this line beneath the eyebrows, while color is located beneath the eyebrows, just outwardly from this line. Order is located just externally to color, and time partly above and between color and order.

Calculation is located beneath the outer termination of the eyebrows, and in proportion as they are long, and extend backward of the eye, will this organ be more or less developed. Three-fourths of an inch above the outer angle of the eyebrow, tune is located. Spurtzheim's rule for finding it is this: Stand directly before the subject, and if the head widens over the outer eyebrow as you rise upward, tune is large; but if you observe a hollow at this point, tune is small. I have generally found this organ small in adults, so that it is difficult to find its relative size, but in children it is very easily found. Its decline is consequent on its non-exercise. Time and tune join each other, while time, tune, and mirthfulness occupy the three angles of a triangle, nearly equilateral, the shortest side being between time and tune.

Language is located partly above and partly behind the eyes. When it is large, it pushes the eyes downward and outward, and of course shoves them forward, which gives them a full and swollen appearance, as if they were standing partly out of their sockets, and causes both the upper and under eyelids to be wide and broad. When the eyes are sunken, and their lids narrow, language will be found small.

By following these rules exactly and specifically, the precise location of the organs can be ascertained, and a few observations upon heads will soon teach you the appearance of the respective organs when they are large, small, or midway in size. Some slight allowances are to be made, however, in calculating the size of the head, or the relative size of the organs. Thus, the larger combativeness is, the longer the line from combativeness to the ear; yet large and small combativeness do not vary this line over from a quarter to half an inch.

Probably the most difficult point of discrimination is between hope and conscientiousness, and it should be distinctly borne in mind that hope is generally placed too far forward. Between hope, cautiousness, and approbateness there probably exists an organ, the natural functions of which are discretion. It measures words and acts, and in business leads one to take receipts, draw writings, etc. There are doubtless other organs yet undiscovered, especially in the middle line of the head, between benevolence and parental love, and also between imitation and causality. Phrenology is yet in its infancy. Though it is perfect in itself, yet our knowledge of it is not yet perfected. As every successive generation makes advances upon the preceding one in astronomy, chemistry, and other departments of science, so Gall and Spurtzheim have discovered only the landmarks of this science, and have left much to be filled up by us and those who come after us.

Phrenology and its Uses.

BY S. WELLS.

PHRENOLOGY is the most *useful* of all modern discoveries; for while others enhance creature comforts mainly, this Science teaches **LIFE** and its **LAWS**, and unfolds human nature in all its aspects. Its fundamental doctrine is, that each mental faculty is exercised by means of a portion of the brain, called its organ, the size and quality of which determine its power. It embodies the only true **SCIENCE OF MIND** and philosophy of human nature ever divulged. It analyzes all the human elements and functions, thereby showing of what materials we are composed, and how to develop them.

PHRENOLOGY shows how the bodily conditions influence mind and morals—the most eventful range of truth. It teaches the true system of Education, shows how to classify pupils, to develop and discipline each faculty separately, and all collectively, into as perfect beings as our hereditary faults will allow. Indeed, to Phrenology and Physiology mainly is the world indebted for its modern educational improvements, and most of its leaders in this department are phrenologists.

PHRENOLOGY teaches parents for what occupation in life their children are best adapted, and in which they can, and can not, be successful and happy. It also teaches parents the exact characteristics of children, and thereby how to manage and govern them properly; to what motives or faculties to appeal, and what to avoid; what desires to restrain, and what to call into action, etc.

PHRENOLOGY and **PHYSIOGNOMY** teach us our fellow-men; disclose their real character; tell us whom to trust and mistrust, whom to select and reject for specific places and stations; enable mechanics to choose apprentices who have a particular knack or talent for particular trades; show us who will, and will not, make us warm and perpetual friends, and who are, and are not, adapted to become partners in business. More, they even decide, beforehand, who can, and who can not, live together affectionately and happily in wedlock, and on what points differences will be most likely to arise.

Most of all, **PHRENOLOGY** and **PHYSIOLOGY** teach us **OUR OWN SELVES**; our faults, and how to obviate them; our excellences, and how to make the most of them; our proclivities to virtue and vice, and how to nurture the former and avoid provocation to the latter.

TESTIMONIALS.

If the opinions of learned and eminent professional men, both in Europe and America, in regard to the truth and utility of Phrenology be of any account, then the following testimonials should have some weight with unbiassed readers :

Let man confine himself to the phenomena of nature, regardless of the dogmas of metaphysical subtlety ; let him utterly abandon speculative supposition for positive facts, and he will then be able to apprehend the mysteries of organization.—Dr. GALL.

While I was unacquainted with the facts on which it is founded, I scoffed, with many others, at the pretensions of the new philosophy of mind as promulgated by Dr. Gall, and now known by the term of Phrenology. Having been disgusted with the uselessness of what I had listened to in the University of Edinburgh (on mental science), I became a zealous student of what I now conceive to be the truth. During the last twenty years I have lent my aid in resisting a torrent of ridicule and abuse, and have lived to see the true philosophy of mind establishing itself wherever talent is found capable of estimating its immense value.—SIR G. S. MACKENZIE, *President of the Royal Society, Edinburgh.*

For more than thirteen years I have paid some attention to Phrenology, and I beg to state, the more deeply I investigate it, the more I am convinced of the truth of the science. I have examined it in connection with the anatomy of the brain, and find it beautifully to harmonize. I have tested the truth of it on numerous individuals, whose characters it unfolded with accuracy and precision. For the last ten years I have taught Phrenology publicly, in connection with Anatomy and Physiology, and have no hesitation in stating that, in my opinion, it is a science founded on truth, and capable of being applied to many practical and useful purposes.—ROBERT HUNTER, M.D., *Professor of Anatomy, University, Glasgow.*

I have great pleasure in stating my firm belief in the truth and great practical utility of Phrenology. This belief is the result of the most thorough investigation, and was proved by evidence that to my mind seemed almost, if not altogether, irresistible.—JAMES SHANNON, *President of Bacon College, Ky., Prof. Mental and Moral Science.*

As far as twelve years' observation and study entitle me to form any judgment, I not only consider Phrenology the true science of mind, but also as the only one that, with a sure success, may be applied to the education of children and to the treatment of the insane and criminals.—C. OTTO, M.D., *Professor of Medicine in the University of Copenhagen.*

I candidly confess that until I became acquainted with Phrenology, I had no solid foundation upon which I could base my treatment for the cure of insanity.—SIR WILLIAM ELLIS, M.D., *Physician to the Lunatic Asylum, Middlessex, England.*

All moral and religious objections against the doctrines of Phrenology are utterly futile.—ARCHBISHOP WHATELY.

As an artist, I have at all times found Phrenology advantageous in the practice of my art ; and that expression, in almost every case, coincided exactly with what was indicated by the cerebral development.—GEORGE KENNIC, Esq., *Sculptor.*

I have long been acquainted with the science of Phrenology, and feel no hesitation in declaring my conviction of its truth. In Phrenology we find the best exposition of the moral sentiments, and the most approved metaphysical doctrines heretofore taught, while it surpasses all former systems in practical utility and accordance with facts—being that alone which is adequate to explain the phenomena of mind. This opinion I am emboldened to pronounce, not merely as my own conviction, but as that which I have heard expressed by some of the most scientific men and best logicians of the day.—RICH. D. EVANSON, M.D., *Prof. Practice of Physiology, R.C.S., Dublin, Ireland.*

No sooner had I read Dr. Gall's work than I found I had made the acquaintance of one of those extraordinary men whom dark envy is always eager to exclude from the rank to which their genius calls, and against whom it employs the arms of cowardice and hypocrisy. High cerebral capacity, profound penetration, good sense, varied information, were the qualities which struck me as distinguishing Gall. The difference which I first entertained for his writings gave place to the most profound veneration. Phrenology is true. The mental faculties of men may be appreciated by an examination of their heads.—JOSEPH VIMONT, M.D., *of Paris, an eminent Physician and Author.*

I declare myself a hundred times more indebted to Phrenology than to all the metaphysical works I ever read. . . . Mental Philosophy is a Natural Science. The human mind is the most important part of nature. It rests on experience, observation, and induction. It is a science of facts, phenomena, and laws. . . . This science of mind is neglected because its benefits are not immediately apparent—its attainments are not capable of display. . . . The phrenological division of faculties of the mind is far more numerous than any other ; it looks to the classes of actions or functions mind has to perform, and finds faculties to perform them, as the naturalist, who could not find the ear of a fish by looking externally, looked from the lobe in the brain where the auditory nerve should terminate outwardly, and found it. . . . I look upon Phrenology as the guide to Philosophy and the handmaid of Christianity. Whoever disseminates true Phrenology is a public benefactor.—HORACE MANN.

We deem it right to mention that Phrenology appears to us to be true, in as far as it assigns a natural basis to the mind, and that it is entitled to very respectful attention for the support given to it by a vast amount of careful observation, and the strikingly enlightened and philanthropic aims for which many of its supporters have been remarkable.—JOHN CHAMBERS, of Chambers' Edinburgh Journal.

The more I study nature, the more am I satisfied with the soundness of phrenological doctrines.—J. MACKINTOSH, M.A.

By this science the faculties of the mind have been, for the first time, traced to their elementary forms.—ROBERT CHAMBERS, of Chambers' Journal.

Phrenology has added a new and verdant field to the domain of human intellect.—REV. THOMAS CHALMERS, D.D.

Phrenology undertakes to accomplish for man what Philosophy performs for the external world—it claims to disclose the real state of things, and to present nature unavailed and in her true feature.—PROF. BASS. SILLIMAN.

To a phrenologist the Bible seems to open up its broadest and highest beauties.—REV. P. W. DEWEY.

Phrenology is the true Science of Mind. Every other system is defective in enumerating, classifying, and tracing the relations of the faculties.—PROF. R. H. HUNTER.

If we would know the truth of ourselves, we must interrogate Phrenology, and follow out her teachings, as we would a course of religious training, after we had once become satisfied of its truth. . . . The result of all my experience for something over two-score years is this: that Phrenology is a revelation put by God himself within the reach of all His intelligent creation to be studied and applied in all the relations and in all the business of life; that we are all of us both phrenologists and physiognomists in spite of ourselves, and without knowing it; and that we have only to enlarge our observations, and be honest and true to ourselves, and these two sciences will have no terror for us, and our knowledge of them, instead of being hurtful or mischievous, would only serve to make us wiser and better, and therefore happier, both here and hereafter. And, in conclusion, let me say that I have never yet examined a sturdy disbeliever with a head worth having.—HON. JOHN NEAL.

All my life long I have been in the habit of using Phrenology as that which solves the practical phenomena of life—not that I regard the system as a completed one, but that I regard it as far more useful and far more practical and sensible than any other system of mental philosophy which has yet been evolved. Certainly, Phrenology has introduced mental philosophy to the common people. Hitherto, mental philosophy has been the business of philosophers and metaphysicians—and it has just been about as much business as they needed for their whole lives; but since the day of Phrenology, its nomenclature, its simple and sensible division of the human mind, and its mode of analyzing it, the human mind has been brought within reach and comprehension of ordinary common, intelligent people. And now, all through the reading part of our land, it may be said that Phrenology is so far diffused that it has become the philosophy of the common people. The learned professions may do what they please, the common people will try these questions, and will carry the day—to say nothing of the fact that all great material and scientific classes, though they do not concede the truth of Phrenology, are yet digesting it, and making it an integral part of the scientific system of mental philosophy.—REV. HENRY WARD BEECHER.

I speak literally, and in sincerity, when I say that were I at this moment offered the wealth of India, on condition of Phrenology being blotted from my mind forever, I would scorn the gift; nay, were every thing I possessed in the world placed in one hand and Phrenology in the other, and orders issued for me to choose one, Phrenology, without a moment's hesitation, would be preferred.—GEORGE COMAR, Author "Constitution of Man."

We may also mention the names of the following prominent men who have accepted Phrenology as a true science, and in various ways given it the support of their influence:

DR. JOHN W. FRANCIS,	Prof. S. G. MORTON,	HON. HORACE GREELEY,
DR. CHARLES A. LEE,	Prof. S. G. HOWE,	WM. C. BRYANT,
DR. J. V. C. SMITH,	Prof. GEO. BUSH,	HON. AMOS DEANE,
DR. MCCLINTOCK,	Judge E. P. HURLBUT,	REV. ORVILLE DEWEY,
DR. JOHN BELL,	HON. T. J. RUSK,	REV. JOHN PIERPONT,
Prof. C. CALDWELL,	HON. WM. H. SEWARD,	HON. S. S. RANDALL.

Phrenology being true, it should be learned and cordially embraced by all, and its benefits appropriated. It comes to mankind, not as a partisan or sectarian proposition, but as the voice of God revealed in nature to aid and guide mankind.

Phrenological Journal Office, 350 Broadway, New York.

THE FOLLOWING ARE SOME OF THE OPINIONS OF THE PRESS
RESPECTING PROF. PAYNE'S ABILITIES:

He stands at the head of his profession.—*St. Louis Democrat*.

The most accurate phrenologist we ever met.—*Kansas State Record*.

He is the nestor of American phrenologists.—*Louisville Courier*.

A sparkling lecturer.—*N. Y. Tribune*.

Dr. Payne's course of lectures have been well attended. The lecture last night on "Love and Matrimony" was a decided success.—*Cincinnati Commercial*.

Dr. Payne, the phrenologist, draws a full house every night at Gleason's Hall.—*Philadelphia Enquirer*.

The American physiognomical lecturer, Dr. W. A. Payne, is meeting with fine success here. The *Toronto Globe* thinks "he is equal to O'Leary, the Canadian lecturer." We do not.—*Chatham (Canada) Planet*.

We recommend Dr. Payne as a lecturer.—*Indianapolis Journal*.

Dr. Payne is certainly a very fluent and agreeable speaker; yet we can not subscribe to one-half of his opinions.—*Detroit Free Press*.

Dr. Payne, of New York, is lecturing to full houses at Bryant & Stratton's Commercial College, on human nature.—*Chicago Times*.

Unquestionably Dr. Payne is the best delineator of human character in the United States. Frank's Hall was crowded again last night.—*Kansas City Journal*.

Dr. Payne is a deeply-read physiologist, and an exceeding instructive lecturer and describer of nature.—*Leavenworth Times*.

Dr. Payne goes to St. Joseph to lecture. He gave decided satisfaction to our citizens during his course of one week. Success to him.—*Leavenworth Com.*

A splendid delineator of human character.—*Pittsburg Sunday Leader*.

The private lecture last night to gentlemen, given by Prof. W. A. Payne, was one of decided force, importance, and propriety.—*New Albany Commercial*.

Prof. Payne has given a course of very acceptable lectures to the citizens of Cincinnati.—*Enquirer*.

The lecturer would state that he has in his possession testimonials from many of the principals of universities and colleges, not only of the Middle States, but also of New England and the South. The respect with which he has been greeted, both by the press and people, during a career of seven years, warrants him, encourages him to continue in the same path—with this limit, however, that his professional duties will be confined chiefly, hereafter, to the four grand, young giant cities of the West.







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